

BK	NUM	ANS	QUESTION	ANSWER A	ANSWER B	ANSWER C	ANSWER D	ILLUST
5	14	D	At 0600 your loran reads:  9960-W-14546.3 9960-X-25909.5 9960-Y-43945.0  What is your 0600 position?	LAT 41°17.1'N, LONG 71°38.3'W	LAT 41°17.3'N, LONG 71°38.7'W	LAT 41°17.4'N, LONG 72°38.1'W	LAT 41°17.6'N, LONG 71°38.9'W	
5	15	B	The Vicksburg Gage reads 31.9 feet. The high point on your towboat is 43 feet above the water. What is the vertical clearance as you pass under the Vicksburg Highway 80 Bridge?	36.2 feet	41.4 feet	58.0 feet	84.3 feet	
5	33	A	What is the total length of the trip?	873.7 miles	900.7 miles	901.4 miles	910.6 miles	
5	34	D	You estimate the current at 3.0 mph. What is the speed over the ground?	9.5 mph	7.5 mph	4.5 mph	3.5 mph	
5	35	B	What are the dimensions of the channel maintained at Baton Rouge, LA?	30 feet x 300 feet	45 feet x 500 feet	30 feet x 500 feet	40 feet x 300 feet	
5	36	D	You pass Springfield Bend Lt. (mile 244.8 AHP) at 1242, on 17 October, and estimate the current will average 2.5 mph for the remainder of your trip. What is your ETA at the mouth of the Ohio River if you are making turns for 10.5 mph?	1905, 19 October	2122, 19 October	0232, 21 October	0519, 21 October	
5	37	B	As you pass under the Natchez-Vidalia Dual Bridge, the gage on the bridge reads -3.6 feet. If the highest point on your vessel is 62 ft. above the water, what is your vertical clearance?	122.0 feet	67.6 feet	63.6 feet	60.0 feet	
5	38	A	What are the color and shape of Anconia Pt. Light at mile 528.6 AHP?	Green - Diamond	Green - Square	Red - Triangle	Red - Square	
5	39	A	At 1227, on 19 October, you pass under the Greenville Highway Bridge (mile 531.3 AHP). What speed must you average to arrive at Jimmy Hawken Light (mile 663.5 AHP) at 0930 the following day?	6.3 mph	5.9 mph	5.6 mph	5.2 mph	
5	40	C	Which of the following statements regarding aids to navigation shown in the Army Corps. of Engineers map book is TRUE?	The U.S. Army Corps.. of Engineers is responsible for placing and maintaining all aids to navigation.	Buoy positions as shown on the chart are exact.	Buoys should always be given as wide a berth as possible.	Lights and daymarks are always shown in their exact location.	

5	41	C	The Delta-Friar Point revetment on the LMR extends from mile _____.	648.5 - 645.5 LDB	652.8 - 649.6 RDB	657.3 - 652.2 LDB	645.6 - 641.4 RDB	
5	42	C	What is the distance from Greenville, MS, to St. Louis, MO, on the Mississippi River System?	832 miles	733 miles	597 miles	566 miles	
5	43	C	You have received orders to proceed to the Amoco Pipeline Co. (mile 253.6 AHP) above Baton Rouge. If your vessel is making turns for 9 mph with an estimated average current of 1.5 mph, what is your ETA at the Amoco docks?	0844, 28 Aug	1454, 28 Aug	1444, 27 Aug	2214, 27 Aug	
5	44	B	The highest point on your towboat is 52 feet above the water, and the Helena Gage reads +9.6 feet. What is the vertical clearance when you pass under the A-span of the Helena Highway Bridge?	73.1 feet	58.0 feet	53.9 feet	49.8 feet	
5	45	B	You are in charge of a vessel that damages an aid to navigation established and maintained by the United States. Which statement is TRUE?	You must take the aid in tow and deliver it to the nearest Coast Guard, Marine Safety Office.	You must report the accident to the nearest Officer in Charge, Marine Inspection.	You may wait until you reach your destination before reporting the allision to the U.S. Coast Guard.	You must report the allision to the nearest Corps. of Engineers office.	
5	46	D	At 2342, on 25 August, you pass under the Helena Highway Bridge (mile 661.7 AHP). What has been the average speed of the current since departing Memphis Harbor, McKellar Lake, if you have been making turns for 9 mph?	5.6 mph	4.4 mph	2.1 mph	1.8 mph	
5	47	C	What is the distance in river miles, from the new mouth of the White River to the RR and Hwy bridge at Baton Rouge, LA?	384 miles	370 miles	365 miles	358 miles	
5	48	C	The Clinch River empties into which river?	Arkansas	Mississippi	Tennessee	Ohio	
5	49	A	As you pass under the Greenville Highway Bridge, you estimate the current as 4.5 mph. What is the speed over the ground, if your vessel is making turns for 9 mph?	13.5 mph	14.5 mph	15.5 mph	16.5 mph	
5	51	B	As you approach Anconia Pt. Light (mile 528.6 AHP), which type of dayboard would you see on the light structure?	Green diamond	Green square	Red square	Red diamond	
5	52	A	You are downbound when you observe on your Mississippi River map a white square with a number inside located on either bank. This indicates _____.	a facilities display number	a river mile marker	a daybeacon	a river gage	

5	53	A	What are the dimensions of Old River Lock, on the Lower Mississippi River?	1190 feet x 75 feet	1045 feet x 75 feet	760 feet x 75 feet	425 feet x 75 feet	
5	54	D	What is the length of the trip?	1566.4 miles	1334.6 miles	1332.2 miles	1088.0 miles	
5	55	A	After you get underway, what is the first river gage you will pass?	Bayou Sara	Baton Rouge	Head of Passes	Red River Landing	
5	56	B	The Red River Landing Gage reads 5.2 feet. The Low Water Reference Plane for the Red River is 10.6 ft. Which of the following statements is TRUE?	The depth over revetment at Old River is 25.2 feet.	River level is below the Low Water Reference Plane.	The depth over Old River Lock sill is greater than 11 ft.	This gage reading is at a higher elevation than the same reading on the Gage at Head of Passes.	
5	57	D	At 0922, on 24 May, you are abreast the St. Catherine Bar Lt. (mile 348.6 AHP). If you are turning for 8.0 mph, what is the current?	7.0 mph	2.0 mph	1.4 mph	1.0 mph	
5	58	D	What daymark will you see as you approach Warnicott Bar Lt. (mile 351.3 AHP)?	Red diamond	Red triangle	White square	Green square	
5	59	B	You pass Warnicott Bar Lt. at 1146, 24 May. What is your ETA off the Mhoon Landing Gage if you average 6.5 mph?	0909, 27 May	1528, 26 May	0426, 26 May	0152, 26 May	
5	60	C	What town is located at mile 389.8 AHP?	Whitehall	Belmont	Rodney	St. James	
5	61	A	What is the width of the navigable channel at Grand Gulf Island Light (mile 404.9 AHP) ?	0.455 mile	0.62 miles	0.71 mile	0.8 miles	
5	62	B	The Greenville Gage reads 10.6 feet. The high point of your towboat is 54 feet above water. What is the vertical clearance as you pass under the Greenville Highway Bridge?	75.4 feet	65.4 feet	54.2 feet	44.4 feet	
5	63	A	In addition to the Army Corps. of Engineers maps, data on bridge clearances may be found in the _____.	Light List	Waterways Journal	Army Corps. of Engineers Regulations	Channel Report	
5	64	B	What is the length of the trip?	726.0 miles	851.9 miles	878.9 miles	879.6 miles	
5	65	D	What are the dimensions of the Old River Lock on the Lower Old River (mile 304 AHP)?	1202 x 84 feet	1200 x 75 feet	1195 x 75 feet	1190 x 75 feet	
5	66	D	At 2126, you pass Morganza Bend Light (mile 278.4 AHP). At 0122, 4 January, you pass Red River Landing Gage (302.4 AHP). You have been turning for 7.5 mph. What is the current?	6.2 mph	2.7 mph	1.8 mph	1.4 mph	
5	67	D	The Gage at Red River Landing reads 22.2 feet. The LWRP for Red River is 10.6 feet. What is the water level in relation to the low water reference plane?	32.8 ft below	32.8 ft above	11.6 ft below	11.6 ft above	

5	68	C	The river will be temporarily closed to navigation at mile 531.3 AHP due to repairs to the bridge. This will occur at 1300, 5 January, and last for six hours. What minimum speed over the ground must you make from Red River Landing Gage in order not to be delayed?	7.3 mph	6.8 mph	6.4 mph	6.0 mph	
5	69	A	Which type of daymark will you see as you approach Joe Pierce Light (mile 335.4 AHP)?	Red Triangle	Red square	Red diamond	Private aid - no daymark	
5	70	B	What is the vertical clearance of the Natchez-Vidalia Highway Bridge (westbound) when the river level is the same as the Low Water Reference Plane (6.5 feet)?	125.6 ft	119.5 ft	108.3 ft	102.2 ft	
5	71	D	The Natchez Gage reads 20.6 feet. The high point on your towboat is 47 feet above the water. What is the vertical clearance as you pass under the Natchez Highway Bridge?	78.6 feet	72.5 feet	64.1 feet	58.4 feet	
5	72	A	In order to determine what buoys, if any, are in place at Concordia Bar crossing (mile 596.0 AHP), what should you check?	Local Notice to Mariners	Waterways Journal	Bulletin Board at the Rosedale Gage	Light List	
5	73	A	The area between Island 67 Upper Light (mile 623.1 AHP) and Sunflower Cut-off Foot Light (mile 624.8 AHP) is known as a _____.	crossing	chute	transit	slough	
5	74	D	You are turning for 7.8 mph and estimate the current at 1.0 mph. What is your speed over the ground?	6.8 mph	7.8 mph	7.9 mph	8.8 mph	
5	75	C	What is your ETA at the Memphis Highway Bridge?	1813, 22 Sept	1405, 22 Sept	1052, 22 Sept	0828, 22 Sept	
5	76	B	What daymark should you see as you approach Parker Landing Light (mile 924.6 AHP)?	Green square	Green diamond	Red and green rectangle	Green triangle	
5	77	B	You pass Morrison Towhead Light (mile 890.5 AHP) at 1723. What was your average speed since leaving Cairo?	8.8 mph	8.5 mph	7.8 mph	7.5 mph	
5	78	D	At 1723 you increase speed to make good 9.2 mph. At 1937 you have a daymark on your port beam. What daymark is this?	Tiptonville Ferry Landing Daymark	Tiptonville Light	Alaska Light and Daymark	Merriwether Bend Light and Daymark	
5	79	A	The map shows a circle with two black quadrants located at mile 846.4 AHP. What does this indicate?	A river gage	A bulletin Board	The grain elevator at Bunge Grain	A culvert with a sluice gate	

5	80	C	The Helena Gage reads 9.4 feet. The high point on your towboat is 46 feet above water. What is the vertical clearance when you pass under the Helena Highway Bridge?	106.1 feet	79.5 feet	64.2 feet	56.0 feet	
5	81	C	Which company does NOT have a marine facility along the river bank in Helena (mile 658 to 665 AHP)?	Riceland Food Corps..	Helena Marine Services, Inc.	Helena Grain Co.	Texas Eastern Pipeline Co.	
5	82	A	If the Rosedale Gage reads -0.5 feet, what is the water level in relation to the low water reference plane? The low water reference plane (LWRP) for Rosedale, MS. is 3.0 feet.	3.5 foot below the plane	2.5 foot above the plane	0.5 feet above the plane	0.5 feet below the plane	
5	83	A	Which light characteristics does Catfish Point Lower Light (mile 572.2 AHP) have?	2 red flashes every 5 seconds	5 red flashes every 2 seconds	2 white flashes every 5 seconds	3 red flashes every 5 seconds	
5	84	D	What is the distance from the Amoco Docks at Baton Rouge, LA, to the mouth of the Ohio River?	981.5 miles	953.5 miles	727.9 miles	700.2 miles	
5	85	A	You are turning for 10 mph, approaching Angola, LA. Angola reports that the current at Red River Landing is estimated at 4.5 mph. Which of the following statements is TRUE?	You should expect to encounter vessels crossing the river at mile 300.5 AHP	You are making 14.5 mph over the ground.	You would expect to find a more favorable current near the broken red line in the river.	Hog Pt. Light and Hog Pt. Lower Light may be used as range lights when entering Shreves cut-off.	
5	86	B	As you approach Shreves cut-off you see Red River Landing Gage (mile 302.4 AHP) which reads 6.2 feet. Which of the following statements is TRUE?	This reading is 6.2 feet above the Low Water Reference Plane.	This reading is at the same elevation as the 6.2 ft. mark on the Gage at Head of Passes.	The depth of water at Red River Landing is 6.2 ft.	A vessel drawing 7 ft. would be able to pass through the locks at Lower Old River.	
5	87	B	You pass Red River Gage at 2015 on 16 April and estimate the current will average 3.5 mph for the remainder of the time on the Mississippi River. What is your ETA at the mouth of the Ohio River if you continue to turn for 10 mph?	0821, 21 April	0028, 21 April	1830, 20 April	1445, 20 April	
5	88	B	What is the vertical clearance between the highest point of your towboat, if it is 58 feet above the water, and if the Natchez Gage reads 28.13 feet when passing under the Natchez Upper Highway Bridge?	45.4 feet	39.3 feet	33.2 feet	15.9 feet	
5	89	C	In high water conditions, which publication would you consult for the latest information on buoys between Baton Rouge and Cairo?	Army Corps. of Engineers Navigation Chart	U.S.C.G. Light List	U.S.C.G. Local Notice to Mariners	List of Buoys and Daymarks	

5	90	D	As you approach Giles Bend Cutoff Light (mile 367.7 AHP), what type of daymark would you see on the light structure?	None	Red diamond	Red square	Red triangle	
5	91	B	At 0305 on 18 April, you pass under the Greenville Bridge (mile 531.3 AHP). What was your average speed since departing Amoco Pipeline Co. Docks (mile 253.6 AHP)?	7.2 mph	6.8 mph	6.5 mph	6.2 mph	
5	92	A	A stretch where the channel changes from one side of the river to the other is called a _____.	crossing	transit	transfer	passing	
5	93	D	Which light characteristics does Quaker Oats Light (mile 952.6) have?	1 red flash every four seconds	2 green flashes every 5 seconds	2 red flashes every 4 seconds	2 red flashes every 5 seconds	
5	94	B	You have orders to drop off the empties at the fleeting area in Cairo and add five loaded barges to your tow. If you are turning for 8 mph and estimate the current at 0.5 mph, what is your ETA at Cairo?	1928, 11 Aug	1614, 11 Aug	1327, 11 Aug	2352, 10 Aug	
5	95	B	You complete changing out your tow and get underway enroute Memphis, Tennessee to deliver 2 tank barges. What is the distance you must travel from Cairo Point Light to the Lion Oil Refining Co. Docks in Memphis?	180.3 miles	220.2 miles	246.5 miles	734.3 miles	
5	96	A	As you approach Kate Aubrey Towhead Light (mile 789.5 AHP), your searchlight will show what type of marking at the light?	Green diamond	Red and green banded square	Green triangle	Green square	
5	97	C	The highest point on your towboat is 57 feet above the water, and the Memphis Gage reads +1.3 feet. What is the vertical clearance when you pass under the Memphis Highway Bridge in Memphis?	112.7 feet	55.7 feet	54.6 feet	51.8 feet	
5	98	C	At 0230 on 13 August, you are at mile 610.5 AHP when you see about a mile ahead lights on the water near the left bank. What might you see when you come abreast of these lights?	Privately maintained buoys at a yacht club	Government buoys marking the Hurricane Point dikes	Barges moored at the Dennis Landing Terminal	A pipeline discharging dredge spoil	
5	99	B	What is the mile point of the Rosedale Gage?	598 AHP	592 AHP	587 AHP	554 AHP	
5	100	A	Which of the following statements concerning the buoys on the Mississippi River is TRUE?	Buoy locations may be changed to indicate the channel for the existing river stage.	The buoys are maintained on station year round.	Buoys have permanent moorings on the river bottom and will not shift position.	The position of river buoys can be determined by consulting the latest Light List - Vol. V.	

5	101	D	At 1430 on 13 August, you pass Carolina Landing Light (mile 508.8 AHP). What has been the average current since 0230, 13 August if you have been making turns for 8.0 mph?	8.5 mph	5.7 mph	1.5 mph	0.5 mph
5	102	A	The latest available information on the channel conditions above Baton Rouge that includes recommended course and the latest buoy information is found in the _____.	Local Notice to Mariners	Waterways Journal	Sailing Directions	Corps. of Engineers maps
5	103	C	You are approaching the Old River Control Structure (mile 314.5 AHP). The structure is in operation. Which of the following statements is TRUE?	The maximum speeds permitted when passing the channel are 10 mph downbound and 7.5 mph upbound.	Tows must be no more than 110 feet wide when passing the inflow channel.	You should navigate as close to the left descending bank of the Mississippi River as safety permits.	Tow length should not exceed 850 feet when passing the inflow channel.
5	105	A	On 19 January , your 0300 zone time DR position is LAT 22°13'N, LONG 40°19'W. You are on course 297°T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0545 running fix?	LAT 22°29.0'N, LONG 41°06.5'W	LAT 22°30.3'N, LONG 41°00.2'W	LAT 22°31.1'N, LONG 42°58.6'W	LAT 22°33.0'N, LONG 42°55.9'W
5	106	C	You are steaming at 22 knots and burning 319 barrels of fuel per day. You must decrease your consumption to 137 barrels per day. What must you reduce your speed to in order to burn this amount of fuel?	12.4	14.8	16.6	18.2
5	108	C	The horizontal clearance of the center span on the Baton Rouge RR and Highway 190 Bridge is _____.	443	500	623	748
5	109	C	The horizontal clearance of the center span on the Baton Rouge RR and Highway Bridge (mile 233.9 AHP) is _____.	443	500	623	748
5	110	B	As you pass under the Baton Rouge RR and Highway 190 bridge you receive a call from another tow upriver. What channel on the VHF should you be monitoring?	1	13	16	67
5	111	B	As you pass Solitude Lt. (mile 249.0 AHP) which dayboard would you see?	Green square	Green diamond	Red triangle	Red diamond
5	112	A	Which of the following statements regarding buoys on the Mississippi River is TRUE?	Buoys should be given as wide a berth as possible in passing.	Buoy positions on the chart are exact.	The buoys are maintained on station year round.	The buoys do not shift positions due to permanent moorings.

5	113	B	What is indicated by the two light gray shaded areas that cross the river above False River Lt. (mile 251.0 AHP)?	Ferry crossings	Utility crossings	Aerial cable crossings	Bridge construction	
5	114	C	What are the light characteristics of Greenwood Light (mile 288.6 AHP)?	Fixed red light	1 red flash every 4 seconds	2 red flashes every 5 seconds	2 white flashes every 4 seconds	
5	115	D	After passing Wilkinson Lt. (mile 310.0 AHP) you see a flashing amber light on the right descending bank ahead. The flashing light indicates that you should _____.	stay in the deepest water	slow down due to dredging operations	keep as close to the right descending bank as safety permits	keep as close to the left descending bank as safety permits	
5	116	C	At which of the following times would you be able to listen to lower Mississippi River conditions on VHF Channel 22?	0900 hours	1100 hours	1300 hours	1700 hours	
5	117	B	At 0645, on the 17th of April, you pass Hole in the Wall Lt. (mile 373.4 AHP). What has been your average speed since departing the Exxon Refinery?	5.8 mph	6.3 mph	6.7 mph	7.1 mph	
5	118	C	Your company wants to know at what time you will be arriving at the fleeting area at Sycamore Chute Light (mile 740.3 AHP) in Memphis, TN. You are making turns for 9.0 mph and you estimate the average current at 2.2 mph. Figuring the distance and time from Hole in the Wall Lt. (mile 373.4 AHP), what is your ETA at Sycamore Chute Lt.?	0557, April 19th	1045, April 19th	1242, April 19th	1733, April 19th	
5	119	C	What is the length of the trip?	405.8 miles	553.0 miles	904.0 miles	1136.8 miles	
5	120	B	You estimate the current as 2.5 mph. What is the speed over the ground?	5.5 mph	6.0 mph	8.0 mph	11.0 mph	
5	121	D	As you approach Casting Yard Dock Lt. (mile 265.4 AHP) you notice on the map a circle with 2 black sectors. This symbol indicates a _____.	lock	warning sign	mooring buoy	river gage	
5	122	B	From Baton Rouge to Cairo, what is the maintained minimum channel depth during low water?	6 feet	9 feet	12 feet	30 feet	
5	123	A	On which map would you find Redman Point, Arkansas?	20	23	29	37	

5	124	C	At 1000, on May 11th, you are passing George Prince Lt. (mile 364.1 AHP) in Natchez, Mississippi and must send an ETA to the Monsanto Terminal in St. Louis (mile 178.0 UMR). Your engines are still turning for 8.5 mph and you estimate the current at 2.5 mph. What will be your arrival time in St. Louis?	1919 on 15 May	2344 on 15 May	1757 on 16 May	2236 on 16 May	
5	125	A	As you approach Ashland Light (mile 378.1 AHP) which daymark would you see?	Red triangle	Red diamond	Green square	Green diamond	
5	126	C	What is your clearance as you pass under the Vicksburg Highway 80 Bridge (mile 437.8 AHP), if the Vicksburg Gage reads 14.8 feet and the highest point on your tow boat is 44.5 feet?	36 feet	42 feet	57 feet	66 feet	
5	127	D	After entering Milliken Bend (mile 455 AHP) you wish to locate the river service in Madison Parish, Louisiana. The river service is indicated by the square containing which number?	7	6	5	4	
5	128	D	At Filter Point Light (mile 475 AHP) there are 2 close straight dashed lines on the map. What do these lines represent?	Submerged oil pipelines	Submerged telephone cables	Submerged gas pipelines	Aerial power cables	
5	139	B	What is the distance to Caruthersville Gage from Cape Girardeau?	54.4 miles	160.4 miles	793.4 miles	899.4 miles	
5	140	B	If the highest point on your towboat is 52 feet and the West Memphis Gage reads 26 feet what is the vertical clearance when you pass under the Hernando Desoto Bridge (mile 736.6 AHP)?	25.8 feet	30.7 feet	42.6 feet	56.7 feet	
5	141	A	Your vessel is making turns for 9.5 mph and you estimate the average current for the trip will be 2.5 mph. What will be your ETA Donaldsonville, LA?	1222 on 7 October	1823 on 7 October	0443 on 8 October	1033 on 8 October	
5	142	D	As you approach West Memphis Lt. (mile 727.4 AHP) you notice on the map a dashed line crossing the river. This line indicates a _____.	submerged oil pipeline	submerged gas pipeline	aerial tramway	aerial power line	
5	143	C	At 1609, on October 5, you are abeam of Star Landing Lt. (mile 707.2 AHP) . You calculate your speed since you departed Sycamore Chute fleeting area. If you are turning for 9.5 mph what was the current?	1.0 mph	1.5 mph	2.0 mph	2.5 mph	
5	144	D	What is the distance from the Arkansas River mouth to the Ohio River mouth in river miles?	594 miles	546 miles	422 miles	372 miles	

5	145	A	As you approach Joseph Henry Light (mile 445.2 AHP) which daymark would you see?	Red triangle	Red diamond	Green diamond	Green square	
5	146	C	On which river is Dover, KY located?	Mississippi	Tennessee	Ohio	Missouri	
5	147	D	After passing Oak Bend Lt. (mile 425.6 AHP) you see a light gray shaded area extending into the river shown on the map. This indicates a _____.	fleeting area	weir	dike	revetment	
5	148	A	You are turning for 8.2 mph and estimate the current at 1.5 mph. What is your speed over the ground?	9.7	8.2	7.8	6.7	
5	149	A	Your engines are turning for 8.2 mph. You estimate the current at 1.5 mph. What is your speed over the ground?	9.7 mph	8.8 mph	8.2 mph	6.7 mph	
5	150	C	Which dayboard would you see on Puntney Light (mile 943.6 AHP)?	Green square	Green triangle	Red diamond	Red triangle	
5	151	D	What is the distance from the Memphis Gage to the Redneb Services Dock in New Orleans, LA.	460 miles	503 miles	588 miles	633 miles	
5	152	C	How long will it take you to go from the Memphis Gage to your destination in New Orleans, LA, if you estimate the average current on this segment of the route to be 2.0 mph and you increase the engine turns to 8.5 mph.	1 day 20 hours 33 minutes	2 days 6 hours 24 minutes	2 days 12 hours 15 minutes	3 days 4 hours 11 minutes	
5	153	A	What is the minimum maintained depth of the channel from Cairo to Baton Rouge during low water?	9 feet	12 feet	15 feet	18 feet	
5	154	B	You see a buoy with red and green bands. This buoy marks _____.	the center of the channel	the preferred channel	a channel crossing	an isolated danger	
5	155	A	As you approach Old River Control Structure Light you see a flashing amber light. You should _____.	navigate as close to the left descending bank as safety permits	navigate as close to the right descending bank as safety permits	turn into the inflow channel as the bypass is now open	slow your engine speed to not more than 5 mph	
5	156	D	What are the dimensions of the Old River Lock?	110 ft x 1190 ft	100 ft x 990 ft	75 ft x 1000 ft	75 ft x 1190 ft	
5	157	D	At 1710 on 27 November, you are abeam of Kings Point Lt. (mile 439.8 AHP). At this time you receive a message that there will no be space for you at the Redneb Services Dock until after 1200 on the 29 November. What speed over the ground will you have to slow to so as not to arrive before this time?	5.4 mph	6.1 mph	6.9 mph	7.9 mph	

5	158	A	Which daymark should you see as you approach French Point Light (mile 915.4 AHP)?	Red triangle	Green square	Red diamond	Green diamond	
5	159	C	You are turning for 6.8 mph and estimate the current at 1.0 mph. What is your speed over the ground?	8.8 mph	8.2 mph	7.8 mph	6.8 mph	
5	160	C	How far is it to the Hernando Desoto Bridge in Memphis, TN?	980.8 miles	736.6 miles	218.1 miles	202.4 miles	
5	161	B	At 1923, on September 21, you pass Bixby Towhead Light (mile 873.7 AHP). What was your average speed since leaving Cairo?	12.1 mph	11.3 mph	10.5 mph	9.2 mph	
5	162	A	At 1923, you decrease speed to make good 9.2 mph. What is the first Gage you will pass after your speed change?	Cottonwood Point	New Madrid	Fulton	Tiptonville	
5	163	B	Which light will you be passing at 0059, on 22 September, if you make good 9.2 mph,	Kate Aubrey Lt.	Obion Bar Lt.	Trotter Lt.	Quaker Oats Lt.	
5	164	C	The Helena Gage reads 9.4 feet. The high point on your towboat is 42 feet above water. What is the vertical clearance when you pass under the Helena Highway Bridge?	53.0 feet	64.2 feet	68.0 feet	110.0 feet	
5	165	A	Which company does NOT have a marine facility along the river bank in Helena (mile 661 to 665 AHP)?	Helena Grain, Inc.	Helena Bridge Terminal, Inc.	Quincy Soybean Co.	Texas Eastern Pipeline Co.	
5	166	D	If the Bayou Sara Gage reads -0.5 feet, the Low Water Reference Plane is 5.25. What is the water level in relation to the low water reference plane?	0.5 foot below the plane	0.5 foot above the plane	5.25 feet above the plane	5.75 feet below the plane	
5	167	A	The Arkansas City Yellow Bend revetment on the LMR extends from mile _____.	555.5-549.7 RDB	549.0-548.5 RDB	556.9-554.9 LDB	548.5-546.5 LDB	
5	170	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 54°28.2' on 22 July . The index error is 1.5' off the arc. The height of eye is 56 feet (17.1 meters). What is the observed altitude (Ho)?	54°30.9'	54°36.2'	54°37.7'	54°37.9'	
5	171	D	At 2015, your vessel is at the Chesapeake Bay Bridge and Tunnel midway between buoys "13" and "14". If the height of tide is -1 foot (-0.3 meters), what is the approximate depth of water?	35 feet (10.6 meters)	43 feet (13.1 meters)	46 feet (13.9 meters)	53 feet (15.5 meters)	
5	172	A	If you steer 143°pgc from your 2015 position at an engine speed of 8.0 knots, at what time would you reach a point midway between buoys "11" and "12" (ignore set and drift)?	2029	2032	2035	2037	

5	173	D	At 2015, you alter course to 154°pgc. What is the course per standard magnetic compass (psc)?	142°psc	152°psc	157°psc	162°psc	
5	174	B	Which of the following concerning Thimble Shoal Channel is TRUE?	Only deep-draft passenger ships and large naval vessels may use the main channel.	A tow drawing 20 feet is excluded from the main channel.	The channel is 14.5 miles in length.	Thimble Shoal Channel is in international waters.	
5	175	C	At 2118, you obtain the following bearings:  Cape Henry Light - 148°pgc Cape Charles Light - 033°pgc Thimble Shoal Light - 291°pgc  From this position, you proceed to Norfolk, VA, a distance of approximately 26.0 miles. To arrive at Norfolk by 0200 the next day, what is the speed to make good from your 2118 position to arrive at this time?	6.5 knots	6.0 knots	5.5 knots	5.0 knots	
5	176	C	What is your 2118 position?	LAT 36°56.6'N, LONG 76°01.0'W	LAT 36°57.0'N, LONG 76°01.5'W	LAT 36°57.4'N, LONG 76°01.9'W	LAT 36°58.0'N, LONG 76°02.4'W	
5	178	A	If the Old Point Comfort main light was inoperative what emergency light would be shown?	Light of reduced intensity	Alternating red and white	Flashing yellow	Strobe light	
5	179	C	In order to check your compasses, you sight North Dumpling Island Light in line with Latimer Reef Light bearing 077°pgc. The helmsman was steering 307°pgc and 320° per standard magnetic compass at the time. Which statement is TRUE?	The gyro error by observation is 2°E.	The deviation based on the observation is 15°W.	The magnetic compass error is 14°W.	The true line of the range is 079°.	
5	180	B	On 4 July you observe the lower limb of the Sun at a sextant altitude (hs) of 25°29.8'. The index error is 3.1' off the arc. The height of eye is 48 feet (14.6 meters). What is the observed altitude (Ho)?	25°37.1'	25°40.2'	25°42.8'	25°44.3'	

			You are on course 192°pgc at 12 knots. You obtain a loran fix at 1900 using the following information:  9960-X-27120 9960-Y-41623 9960-Z-58729					
5	181	D	What is your latitude and longitude at 1900?	LAT 37°21.5'N, LONG 75°34.8'W	LAT 37°22.0'N, LONG 75°34.9'W	LAT 37°22.2'N, LONG 75°35.0'W	LAT 37°22.6'N, LONG 75°35.7'W	
5	182	B	What course should you steer using the standard magnetic compass (psc) to make good the course of 192°pgc?	188°psc	203°psc	205°psc	208°psc	
5	183	A	At 1920, the buoy off your starboard bow is _____.	Sand Shoal Inlet Lighted Buoy "A"	Hog Island Lighted Bell Buoy	South Light Buoy	an interrupted quick flashing buoy	
5	184	B	At 1930, your position is LAT 37°16.7'N, LONG 75°37.7'W. The depth of water is approximately _____.	40 feet (12.2 meters)	50 feet (15.2 meters)	60 feet (18.3 meters)	70 feet (23.2 meters)	
5	185	A	At 1950, your position is LAT 37°12.3'N, LONG 75°38.6'W. The set and drift from 1930 to 1950 were _____.	150°T at 1.6 knot	150°T at 0.6 knots	330°T at 0.6 knot	330°T at 1.6 knots	
5	186	D	Assume set and drift have no effect on your vessel. If you change course to 187°pgc from your 1950 position, how close will you pass Cape Charles Lighted Bell Buoy "14"?	0.1 mile	0.5 mile	0.8 mile	1.1 miles	
5	187	C	At 2020, you obtain a fix using the following information: 9960-X-27112 9960-Y-41432  Cape Charles Lighted Bell Buoy "14" bears 333°pgc. Your longitude is _____.	75°38.9'W	75°39.1'W	75°40.5'W	75°41.4'W	
5	188	B	At 2020, what is the course to steer to enter the inbound lane of North Chesapeake Entrance traffic separation scheme if a northwesterly wind causes 3° of leeway?	227°pgc	221°pgc	218°pgc	215°pgc	
5	189	C	At 0645, Watch Hill Point (left tangent) bears 316.5°pgc at 2.75 miles. What was the speed made good between 0600 and 0645?	8.1 knots	9.8 knots	10.3 knots	11.4 knots	

5	190	C	On 2 January you observe the lower limb of the Sun at a sextant altitude (hs) of 35°50.4'. The index error is 0.8' on the arc. The height of eye is 24 feet (7.3 meters). What is the observed altitude (Ho)?	35°50.3'	35°54.7'	35°59.7'	36°05.6'
5	191	C	If you make good 12 knots, what is the ETA at North Chesapeake Channel Entrance Buoy "NCA" (LL #375)?	2121	2116	2111	2101
5	192	D	At 2100, Cape Charles Light bears 321°pgc, and Cape Henry Light bears 247°pgc. Your latitude is _____.	37°00.6'N	37°00.0'N	36°59.7'N	36°59.4'N
5	193	D	If the visibility is 3 miles, at what range will you lose sight of Chesapeake Light?	The light has never been visible.	4.6 miles	6.4 miles	8.3 miles
5	194	C	At 2100, you alter course to 250°T and reduce speed to 7 knots. You enter the traffic separation scheme on the inbound side. At 2200, your fix shows you crossing a broken purple line on the chart, and you observe North Chesapeake Entrance Lighted Gong Buoy "NCD" to port. This area is _____.	an area with local magnetic disturbances	a pilotage area	a precautionary area centered on buoy "CBJ"	in inland waters
5	196	A	What course per standard magnetic compass is (psc) the same as 247°pgc?	257°psc	260°psc	262°psc	265°psc
5	197	A	At 2215, Cape Henry Light bears 242°pgc, Cape Charles Light bears 010.5°pgc, and Chesapeake Channel Tunnel North Light bears 319°pgc. You are heading 271°pgc. What is the relative bearing of Thimble Shoal Light?	014°	017°	280°	332°
5	198	B	While navigating inbound Thimble Shoal Channel system you must _____.	navigate in the main channel when between Trestles A & B	use the north auxiliary channel	remain 1500 yards (1360 meters) from large naval vessels	maintain a speed of six knots

5	199	B	<p>You are underway in the vicinity of Block Island and obtain the following lines of position:</p> <p>Montauk Point Light 263°pgc Block Island Southeast Light 026°pgc Radar Bearing to Block Island Southwest Point 348°pgc</p> <p>What is your position at the time of these sightings?</p>	LAT 41°05.0'N, LONG 71°36.2'W	LAT 41°05.3'N, LONG 71°35.8'W	LAT 41°05.3'N, LONG 71°35.1'W	LAT 41°05.4'N, LONG 71°35.0'W	
5	201	A	<p>What course should you steer by your standard magnetic compass to make good a course of 280°T?</p>	294°psc	290°psc	272°psc	266°psc	
5	202	B	<p>Which statement concerning Montauk Point Light is TRUE?</p>	The light comes on at sunset.	There is an emergency light if the main light is extinguished.	The height of the light is 24 feet.	The tower is painted with black and white stripes.	
5	203	B	<p>At 1800, your position is LAT 41°06.5'N, LONG 71°43.5'W. How would the buoy which bears 030°T from your position at a range of approximately 0.5 mile be painted?</p>	Horizontally banded, red over green	Horizontally banded, green over red	Vertically striped, red and green	Solid green with red letters "BIS"	
5	204	A	<p>From your 1800 position you steer a course of 350°psc at a speed of 10.0 knots. At 1830, your position is LAT 41°11.7'N, LONG 71°45.8'W. What are the set and drift of the current?</p>	029°T, 1.4 knot	029°T, 0.7 knots	209°T, 0.7 knot	209°T, 1.4 knots	
5	205	C	<p>From your 1830 fix, you come left to a course of 290°T. Which of the following statements concerning Watch Hill Light is FALSE?</p>	The nominal range of its white light is 15 miles.	It displays both red and white lights.	Its geographic range is 18.5 miles at a 35 foot (10.7 meter) height of eye.	Its horn blasts every 30 seconds in fog.	
5	206	A	<p>At 1850, you obtain the following bearings and distances:</p> <p>Montauk Point 189°pgc 8.7 miles Watch Hill Light 340°pgc 5.7 miles</p> <p>What true course did you make good between 1830 and 1850?</p>	293°T	297°T	299°T	305°T	

5	207	C	If your height of eye is 35 feet (10.7 meters), what is the approximate geographic range of Block Island North Light?	7.4 nm	13.0 nm	15.8 nm	17.5 nm	
5	208	B	From your 1850 fix, you come left to a course of 280°T, while maintaining a speed of 10 knots. Which of the following combinations of available Loran-C lines would be best for position determination?	9960-X and 9960-Y	9960-Y and 9960-W	9960-W and 9960-X	All are equally good.	
5	209	A	At 0705, you take the following bearings:  Watch Hill Light 034.5°pgc Latimer Reef Light 338.0°pgc Race Rock Light 268.0°pgc  What was the true course made good between 0645 and 0705?	253°T	256°T	263°T	266°T	
5	210	A	During evening twilight on 28 December, the sextant altitude (hs) of the planet Venus was 29°43.2'. The height of eye was 40 feet, and the index error was 2.0' on the arc. What was the observed altitude (Ho)?	29°34.1'	29°36.0'	29°36.3'	29°38.2'	
5	211	C	You decide to use the 9960-Y and 9960-W rates. At 1915, you obtain the following readings:  9960-Y-43936.0 9960-W-14653.3  What is your 1915 position?	LAT 41°13.0'N, LONG 71°54.1'W	LAT 41°13.0'N, LONG 71°53.9'W	LAT 41°13.2'N, LONG 71°53.7'W	LAT 41°13.4'N, LONG 71°53.4'W	
5	212	C	If you were to head into Fishers Island Sound, which of the following charts would you switch to for better detail of Mystic and Mystic Harbor?	13209	13212	13214	13215	
5	213	D	From your 1915 position, you come left and set a course for Gardiners Point. At 1930, your position is LAT 41°12.7'N, LONG 71°56.8'W. What type of bottom is charted at this position?	Blue mud, gritty shells	Buried mussels, gritty shells	Bumpy muck with grainy surface	Blue mud, gray sand	

5	214	D	From your 1930 position, you plot a course to pass 0.5 mile due south of Race Rock Light. If your vessel's speed is 10.0 knots, the current's set and drift are 040°T at 1.8 knots, and a north wind produces a 3° leeway, what true course should you steer to make good your desired course?	300°T	295°T	290°T	280°T
5	215	D	As an option to heading into Long Island Sound, you consider anchoring in the vicinity of the Gardiners Point Ruins at the north end of Gardiners Island. What is the minimum recommended distance from the ruins for fishing, trawling, or anchoring?	1.0 mile	0.8 mile	0.5 mile	300 yards (91 meters)
5	216	A	NOAA VHF-FM weather broadcasts from New London, CT are on _____.	162.55 MHz	162.40 MHz	162.30 MHz	162.25 MHz
5	217	D	Your 1600 position is LAT 37°22.5'N, LONG 75°32.3'W. The depth of water under the keel is about _____.	59 feet (17.3 meters)	52 feet (15.8 meters)	45 feet (13.6 meters)	38 feet (11.5 meters)
5	218	C	If there is no current, what is the course per gyro compass from your 1600 position to point A located 0.5 mile due east of Hog Island Lighted Bell Buoy "12"?	199°pgc	196°pgc	193°pgc	190°pgc
5	219	A	At 1630, you reach point A and come right to 204°T. Your engine speed is 12 knots. Your 1715, position is LAT 37°09.8'N, LONG 75°37.4'W. The current was _____.	067°T at 1.4 knots	246°T at 1.0 knots	067°T at 1.0 knots	246°T at 1.4 knots
5	220	B	From your 1715 fix, you steer 214°T at 12 knots. At 1800, you take a fix using the following Loran-C readings:  9960 - X - 27116.8 9960 - Y - 41386.0 9960 - Z - 58620.6  Your 1800 position is _____.	LAT 37°02.7'N, LONG 75°42.7'W	LAT 37°02.9'N, LONG 75°43.1'W	LAT 37°03.0'N, LONG 75°43.3'W	LAT 37°03.1'N, LONG 75°42.8'W

5	221	A	At 1815, your position is LAT 37°01.0'N, LONG 75°42.7'W. If there is no current, what is the course per standard magnetic compass to arrive at a point 0.3 mile due north of North Chesapeake Entrance Lighted Whistle Buoy "NCA" (LL#375)?	257.0°	255.5°	251.0°	249.0°
5	222	A	From your 1815 position, you want to make good a course of 263°T. Your engines are turning RPM's for 12 knots. The current is 050°T at 1.9 knots. Adjusting your course for set and drift, at what time should you expect to enter the red sector of Cape Henry Light?	1904	1859	1854	1849
5	223	B	At 1920, Cape Henry Light bears 225°pgc, and Chesapeake Channel Tunnel North Light bears 288°pgc. If your heading is 268°T, what is the relative bearing of Chesapeake Light?	206°	213°	215°	220°
5	224	B	Which statement concerning your 1920 position is TRUE?	You are governed by the Inland Rules of the Road.	You are entering a restricted area.	You are within the Chesapeake Bay Entrance traffic separation scheme.	You can expect differences of as much as 6° from the normal magnetic variation of the area.
5	225	C	From your 1920 position, you change course to enter Chesapeake Channel between buoys 9 and 10. What is the course per standard magnetic compass (psc) ?	274°psc	280°psc	283°psc	286°psc
5	226	D	At 2000, your position is LAT 37°04.1'N, LONG 76°05.6'W. You change course for the Eastern Shore. At 2037, Old Plantation Flats Light bears 033°pgc, and York Spit Light bears 282°pgc. The course made good from your 2000 position is _____.	020°T	014°T	006°T	359°T
5	227	A	At 2037, you change course to make good a course of 016°T. There is no current, but a westerly wind is causing 3° leeway. What course per standard magnetic compass (psc) should you steer to make good the course 016°T?	022°psc	025°psc	028°psc	031°psc
5	228	D	Your height of eye is 25 feet (7.6 meters). If the visibility is 5.5 nautical miles, what is the luminous range of Wolf Trap Light?	17.0 miles	16.0 miles	12.0 miles	7.5 miles

5	229	C	If you want a more detailed chart of the area at your 2115 DR position, which chart should you use?	12222	12225	12224	12222
5	230	A	At 2123, your position is LAT 37°20.0'N, LONG 76°03.0'W. What is your distance offshore of Savage Neck?	1.7 miles	2.6 miles	3.4 miles	4.6 miles
5	231	C	From your 2123 position, you are approximately 42 miles from Crisfield, MD. If you are making good a speed of 13 knots, at what time should you arrive at Crisfield, MD?	0148	0112	0037	2359
5	232	D	At 0700, Stratford Shoal Middle Ground Light bears 137°pgc. From your radar, you get a bearing of 007°pgc to the south tip of Stratford Point with a range of 4.5 miles. What is your 0700 position?	LAT 41°04.6'N, LONG 73°07.0'W	LAT 41°04.6'N, LONG 73°06.6'W	LAT 41°04.6'N, LONG 73°07.4'W	LAT 41°04.6'N, LONG 73°07.2'W
5	233	D	At 0725, you are heading 054°T, and Stratford Point Light is abeam to port at 3.1 miles. The current is 135°T at 1.8 knots. If you make turns for an engine speed of 8 knots, which course must you steer to make good 048°T.	055°T	047°T	042°T	035°T
5	234	A	Which structure should you look for while trying to locate Southwest Ledge Light?	White octagonal house on a cylindrical pier	White conical tower with a brown band midway of height	Conical tower, upper half white, lower half brown	Black skeleton tower on a granite dwelling
5	235	C	At 0830, you obtained the following Loran-C readings:  9960-X-26562.5 9960-Y-44028.1  What is your vessel's position?	LAT 41°12.4'N, LONG 73°56.0'W	LAT 40°17.4'N, LONG 73°54.0'W	LAT 41°12.4'N, LONG 72°53.8'W	LAT 41°13.4'N, LONG 72°53.8'W
5	236	C	From your 0830 position, you wish to make good 097°T. There is no current, but a southerly wind is producing 3° leeway. What course should you steer per standard magnetic compass in order to make good your true course?	109°psc	112°psc	115°psc	118°psc

5	237	B	At 0845, you are on a course of 097°T, and Townshend Ledge Buoy "10A" is close abeam to port. With a westerly current of 1.2 knots, what speed will you have to turn for from your 0845 position in order to arrive abeam of Six Mile Reef Buoy "8C" at 1030?	12.1 knots	10.9 knots	9.7 knots	8.5 knots
5	238	C	At 0910, your DR position is LAT 41°11.9'N, LONG 72°47.8'W. Your vessel is on course 097°T at 9.5 knots, and the weather is foggy. At 0915, Branford Reef Light is sighted through a break in the fog bearing 318°T. At 0945, Falkner Island Light is sighted bearing 042°T. What is your 0945 running fix position?	LAT 41°11.1'N, LONG 72°41.2'W	LAT 41°11.3'N, LONG 72°41.3'W	LAT 41°11.5'N, LONG 72°40.7'W	LAT 41°11.8'N, LONG 72°40.2'W
5	239	A	What do the dotted lines around Goose Island and Kimberly Reef represent?	Depth contours	Breakers	Limiting danger	Tide rips
5	240	C	At 1100, your position is LAT 41°11.3'N, LONG 72°28.0'W. You are steering a course of 069°T to leave Black Point one mile off your port beam. It has been reported that the Long Sand Shoal Buoys and Hatchett Reef Buoys are off station. Which of the following will serve as a line marking the hazards and keep your vessel in safe water?	A bearing to Little Gull Island Light of not less than 090°	A Loran reading of more than 9960-Y-43985.0	Danger bearing to Black Point of not more than 064°T	A distance to Saybrook Breakwater Light of not less than 1.3 miles
5	241	B	Little Gull Island Light is _____.	lighted only during daytime when the sound signal is in operation	lighted throughout 24 hours	maintained only from May 1 to Oct 1	obscured by trees from 253° to 352°
5	242	B	At 1210, you are in position LAT 41°14.3'N, LONG 72°16.5'W. What is the depth of water below your keel?	92 feet (28.0 meters)	97 feet (29.4 meters)	108 feet (32.7 meters)	115 feet (35.0 meters)
5	243	A	From your 1210 position, you are making good a course of 083°T. Your engines are turning RPMs for 10 knots. The set and drift of the current are 310° at 1.7 knots. At what time should you expect to enter the red sector of New London Harbor Light?	1243	1254	1259	1305
5	244	D	Your vessel is entering New London Harbor Channel. If there is no current, what should you steer per gyro compass to stay on the range?	006°	357°	354°	351°
5	245	C	On chart 12354, the datum from which heights of objects are taken is _____.	lowest low water	mean low water	mean high water	mean lower low water

5	246	D	The red sector of New London Harbor Light covers from _____.	040° - 310°	000° - 031°	208° - 220°	000° - 041°	
5	247	C	What type of bottom is found at Long Sand Shoal?	Rocky	Muddy	Hard	Sandy	
5	248	D	You are southeast of Saybrook Breakwater Light passing Saybrook Bar Lighted Bell Buoy "8". This buoy marks _____.	a sunken wreck	a bifurcation	the junction with the Connecticut River	shoal water	
5	249	C	At 0005, on 26 January, your position is LAT 41°11.8'N, LONG 72°20.5'W. From this position, you plot a course to steer to Mattituck Breakwater Light "MI" with an engine speed of 9.0 knots. If there are no set and drift, what course should you steer?	225.0°psc	230.5°psc	233.0°psc	236.0°psc	
5	250	C	At 0045, you obtain the following information:  Radar range to Inlet Point is 1.4 miles; Radar range to Rocky Point is 2.8 miles. Radar range to Horton Point is 2.8 miles.  What were the set and drift between 0005 and 0045?	275°true, 0.9 knot	275°true, 1.4 knots	095°true, 1.4 knot	095°True, 0.9 knots	
5	251	A	You alter course from your 0045 position to head for Mattituck Breakwater Light "MI". If the visibility is 10 miles and you make good 9 knots, at what time will you lose sight of Saybrook Breakwater Light?	0100	0123	0131	The light is visible all the way to Mattituck Inlet	
5	252	B	At 0100, you obtain the following radar ranges:  Inlet Point - 2.7 miles, Rocky Point - 4.5 miles, Horton Point - 1.0 mile.  What was the speed made good between 0045 and 0100?	6.7 knots	7.2 knots	8.0 knots	8.7 knots	
5	253	C	According to the DR track line from your 0100 position, how far off Roanoke Point Shoal Buoy "5" should you be when the buoy is abeam?	1.8 mile	1.3 mile	0.8 mile	0.2 miles	

5	254	B	<p>At 0130, you obtain the following radar ranges:</p> <p>Horton Point Light - 4.3 miles;  Mattituck Breakwater Light - 3.45 miles;  Duck Pond Point - 2.0 miles.</p> <p>What were the course and speed made good between 0100 and 0130?</p>	236°T at 9.4 knots	246°T at 9.8 knots	259°T at 9.8 knots	267°T at 9.4 knots
5	255	C	<p>From your 0130 position, you change course to adjust for set and drift, and you later obtain the following loran lines of position:</p> <p>9960-W-14975  9960-X-26412  9960-Y-43919</p> <p>What is the latitude and longitude of the loran fix?</p>	LAT 41°00.8'N, LONG 72°40.8'W	LAT 41°01.2'N, LONG 72°40.4'W	LAT 41°02.0'N, LONG 72°39.5'W	LAT 41°02.6'N, LONG 72°39.0'W
5	256	D	<p>At 0209, your position is LAT 41°01.8'N, LONG 72°40.8'W. What course should you steer per standard magnetic compass to make good 278° magnetic? (assume no set and drift)</p>	262.0°psc	265.0°psc	270.5°psc	275.5°psc
5	257	D	<p>At 0705, you change course to head for The Race. You wish to leave Race Rock Light bearing due north at 0.4 mile. If the current is 110°T, at 2.8 knots, and you are turning for 12.0 knots, what course (pgc) should you steer?</p>	252°pgc	257°pgc	265°pgc	271°pgc
5	258	C	<p>During twilight on 28 December, about 1800 GMT, in DR position LAT 4°00'N, LONG 0°06'W, the sextant altitude (hs) of Venus was 30°46.8'. The height of eye was 36 feet, and the index error was 2.0' on the arc. The temperature was 68°F. The barometer read 1030 mb. Calculate the observed altitude (Ho).</p>	Ho 30°35.2'	Ho 30°37.1'	Ho 30°38.1'	Ho 30°40.3'
5	259	D	<p>The south coast of Long Island Sound between Mattituck Inlet and Port Jefferson is _____.</p>	composed of high rocky bluffs	a high, flat plateau with sheer cliffs	low and marshy with isolated beaches	fringed by rocky shoals

5	260	D	At 0300, your position is LAT 41°01.7'N, LONG 72°55.1'W. From this position you steer a course of 289° per standard magnetic compass at an engine speed of 10.0 knots. At what time can you first expect to see Stratford Shoal Middle Ground Light if the luminous range is 8.0 miles?	0318	0312	0309	0303
5	261	D	You must arrive at your final destination by 0800. The distance from your 0300 position to the final destination is 40.5 miles. What minimum speed must be made good to arrive on time?	9.6 knots	9.3 knots	8.5 knots	8.1 knots
5	262	A	You are northwest of Port Jefferson Harbor steering 242° per standard magnetic compass. As you continue westward, you see that the Port Jefferson Range Front Light and Rear Light come into line. If the deviation table is correct, the bearing of the range should be _____.	157°psc	160°psc	163°psc	166°psc
5	263	D	As you enter the New Haven Outer Channel, you sight the range markers in line directly over the stern. Your heading at the time is 155.5° per gyrocompass. What is the gyro error?	1.0°E	1.0°W	2.0°E	2.0°W
5	264	C	At 0720, you are in the outer channel between buoy "1" and buoy "2" and change course to pass Townshend Ledge Lighted Bell Buoy "10A" abeam to port at 200 yards. What is your ETA off the buoy?	0745	0741	0738	0734
5	265	A	At 0740, you plot a loran fix from the following readings:  9960-X-26542.0 9960-Y-44023.0 9960-W-15027.0  What is your position?	LAT 41°12.4'N, LONG 72°51.5'W	LAT 41°12.6'N, LONG 72°51.8'W	LAT 41°12.7'N, LONG 72°51.9'W	LAT 41°12.2'N, LONG 72°52.0'W
5	266	A	From your 0740 position, you change course to pass 1.1 miles north of Falkner Island Light. What loran reading will ensure that you will remain clear of the 18' shoal located 1 mile NW of Falkner Island Light?	9960 Y: not less than 44014	9960 X: not more than 26452	9960 W: not less than 14942	None of the above

5	267	C	At 0802, Branford Reef Light bears 348°T at 0.75 mile, and the north point of Falkner Island bears 088°T at 6.7 miles. What were the set and drift since 0740?	Set 040°T, drift .2 knot	Set 220°T, drift .2 knot	Set 220°T, drift .6 knot	You are making good your intended course and speed.	
5	268	B	What publication contains information on the navigational hazards in the vicinity of Falkner Island?	The navigational regulations in Title 46, Code of Federal Regulations	U.S. Coast Pilot	U.S. Coast Guard Light List	Inland Navigation Rules	
5	269	B	If there is no current, what is the course per standard magnetic compass from your 0802 fix to the position 1.1 miles north of Falkner Island Light?	099°	095°	068°	064°	
5	270	B	At 0830, you wish to get the latest weather forecasts for the Falkner Island area. On what frequency would you set your FM radio for this information?	2181 kHz	162.40 Mhz	156.80 Mhz	156.65 Mhz	
5	271	A	At 0844, the range to the north end of Falkner Island is 2.0 miles and the left tangent bearing is 102°T. What is the approximate charted depth of the water?	29 ft (8.8 meters)	22 ft (6.7 meters)	19 ft (5.8 meters)	14 ft (4.2 meters)	
5	272	D	At 0925, you plot the following loran fix:  9960-W-14931.5 9960-X-26418.2 9960-Y-44006.5  If you correct for a current setting 215°T at 0.5 knot, what course will you steer from the 0925 position to arrive at a position 0.5 mile south of Long Sand Shoal West End Horn Buoy "W"?	102°T	096°T	093°T	089°T	
5	273	D	If you correct for the current in the previous question (215°T at 0.5 knot) and maintain an engine speed of 7.5 knots, what is your ETA 0.5 mile south of buoy "W"?	1014	1018	1021	1026	
5	274	A	At what approximate distance would you expect Bartlett Reef Light to break the horizon, if the visibility is 27 nautical miles?	12.8 nm	12.0 nm	6.9 nm	5.9 nm	

5	275	A	At 1038, you are 0.4 mile south of Long Sand Shoal Buoy "8A" on course 090°T when visibility is reduced to 1 mile in rain and haze. You intend to stay on 090°T until your Loran shows a reading that you can safely follow to the approaches of New London. Which of the following Loran readings will you look for?	9960-Y-43980	9960-X-26290	9960-W-14730	9960-W-14810	
5	276	C	At 1200, your position is 2.0 miles southwest of Bartlett Reef Light. Your heading is 075°T. Visibility is less than 0.2 mile in fog and rain. Which of the following signals is most likely to be from another vessel?	Whistle from 125° relative	Bell from 350° relative	Whistle from 075° relative	Horn from 330° relative	
5	277	C	What chart should you use after you enter New London Harbor?	13211	13214	13213	13272	
5	278	A	The National Weather Service provides 24 hour weather broadcasts to vessels transiting the Chesapeake Bay Bridge Tunnel area on which frequency?	162.55 MHz	162.85 MHz	181.15 MHz	202.35 MHz	
5	279	D	At 1752, your position is LAT 37°04.3'N, LONG 76°06.4'W. On a flood current you should expect to be set to the _____.	south southeast	south southwest	east southeast	north northwest	
5	280	B	Your 1752 position places you _____.	less than 0.5 mile eastward of York Spit Channel	less than 0.5 mile westward of York Spit Channel	greater than 0.5 mile westward of York Spit Channel	greater than 0.5 mile eastward of York Spit Channel	
5	281	C	What is the average velocity of the maximum flood current at the Tail of the Horseshoe?	1.6 knot	1.3 knot	0.9 knots	0.6 knots	
5	282	A	From your 1752 position, you steer 307°pgc at 9 knots. At 1805, you obtain the visual bearings. What are the latitude and longitude of your 1805 position? Old Pt. Comfort Light 232°pgc. Chesapeake Bay Tunnel North Light 130°pgc.	LAT 37°05.9'N, LONG 76°08.0'W	LAT 37°06.0'N, LONG 76°08.4'W	LAT 37°05.9'N, LONG 76°07.7'W	LAT 37°06.1'N, LONG 76°07.5'W	
5	283	A	At 1810, you sight a buoy on your starboard side labeled "19". This buoy marks _____.	the side of York Spit Channel	the visibility limit of the red sector of Cape Henry Light	the end of York Spit Channel	the junction of the York Spit and York River Entrance Channels	
5	284	C	Based on a DR, at approximately 1817 you would expect to _____.	enter a traffic separation zone	cross a submerged pipeline	depart a regulated area	depart a restricted area	

			At 1845, you obtain a loran fix using the following information: 9960-X-27252.0 9960-Y-41432.0 9960-Z-58537.5					
5	285	C	Your latitude is _____.	37°10.7'N	37°10.9'N	37°11.2'N	37°11.6'N	
5	286	A	Your 1900 position is LAT 37°12.9'N, LONG 76°13.5'W. You change course to 317°psc and slow to 8.0 knots. What is the course per standard magnetic compass?	329°psc	319°psc	311°psc	309°psc	
5	287	B	If the visibility is 11 miles, what is the luminous range of New Point Comfort Spit Light "4"?	6.5 mile	5.0 miles	3.3 miles	2.0 miles	
5	288	B	According to your track line, how far off New Point Comfort Spit Light "4" will you be when abeam of this light?	0.5 mile	0.9 miles	1.5 miles	1.8 miles	
5	289	C	At 1930, you take a fix using the following radar ranges: York Spit Light - 3.6 miles; New Point Comfort Spit Light "2" - 2.0 miles; York Spit Swash Channel Light "3" - 2.5 miles. Your longitude is _____.	76°16.2'W	76°16.5'W	76°16.8'W	76°17.2'W	
5	290	D	What was the speed made good from 1845 to 1930?	6.2 knots	6.8 knots	7.5 knots	8.3 knots	
5	291	A	What is the height above water of Davis Creek Channel Light "1"?	15 feet (4.6 meters)	17 feet (5.2 meters)	19 feet (5.8 meters)	24 feet (7.3 meters)	
5	292	A	If you have 17.3 miles to reach your destination from your 2000 position and want to be there at 2230, what speed should you make good?	6.9 knots	6.5 knots	6.1 knots	5.7 knots	
5	293	D	At 1730, your position is LAT 37°13.9'N, LONG 76°26.4'W. You are steering course 088° per standard magnetic compass (psc) at an engine speed of 8.0 knots. What is your distance off Tue Marshes Light at 1730?	3.2 miles	3.0 miles	2.8 miles	2.6 miles	
5	294	A	What is the maximum allowable speed of vessels underway up river from Tue Marshes Light?	12 knots	10 knots	8 knots	6 knots	

5	295	B	At 1750, your position is LAT 37°14.5'N, LONG 76°22.9'W. What was the course made good between 1730 and 1750?	081°T	078°T	075°T	072°T	
5	296	C	At 1800, Tue Marshes Light bears 264.5°pgc, York Spit Swash Channel Light "3" bears 007°pgc. Your position is _____.	LAT 37°15.5'N, LONG 76°19.8'W	LAT 37°15.2'N, LONG 76°20.3'W	LAT 37°14.5'N, LONG 76°20.1'W	LAT 37°15.0'N, LONG 76°20.4'W	
5	297	C	What course should you steer per standard magnetic compass in order to navigate down the center of York River Entrance Channel (ignore set and drift)?	149°psc	145°psc	141°psc	139°psc	
5	298	A	You have just passed York River Entrance Channel Lighted Buoys "13" and "14". The chart shows a light approximately 1.0 mile off your port beam with a light characteristic "Fl 6 sec". What is the name of this light?	York Spit Light	New Point Comfort Shoal Light	Mobjack Bay Entrance Light	York River Entrance Channel Light "1"	
5	299	A	At 1930, your vessel is between York River Entrance Channel Lighted Buoys "1YR" and "2". From this position, you change course to 142°pgc at an engine speed of 8.0 knots. At 2001, you obtain the following information:  Chesapeake Channel Tunnel North Light - 131°pgc; Thimble Shoal Light - 248°pgc					
5	299	A	What were the set and drift between 1930 and 2001?	127° at 0.5 knot	127° at 1.1 knot	307° at 1.1 knot	307° at 0.5 knot	
5	300	C	You are bound for New London. Where will you cross the demarcation line and be governed by the Inland Rules of the Road?	You are already governed by the Inland Rules.	Above the Thames River Bridge	In the Race	You will not be governed by the Inland Rules.	
5	301	B	You depart LAT 28°55.0'N, LONG 89°10.0'W, enroute to LAT 24°25.0'N, LONG 83°00.0'W. Determine the true course and distance by mid-latitude sailing?	418 miles, 122°T	427 miles, 129°T	436 miles, 133°T	442 miles, 122°T	
5	302	B	A vessel steams 720 miles on course 058°T from LAT 30°06.0'S, LONG 31°42.0'E. What are the latitude and longitude of the point of arrival by mid-latitude sailing?	LAT 23°48'S, LONG 43°11'E	LAT 23°44'S, LONG 43°07'E	LAT 23°38'S, LONG 43°03'E	LAT 23°34'S, LONG 43°00'E	

5	303	D	A vessel steams 576 miles on course 260°T from LAT 40°36'N, LONG 50°24'W. What are the latitude and longitude of the point of arrival by mid-latitude sailing?	LAT 39°12'N, LONG 62°28'W	LAT 39°06'N, LONG 62°34'W	LAT 39°02'N, LONG 62°37'W	LAT 38°56'N, LONG 62°42'W	
5	304	C	A vessel steams 580 miles on course 083°T from LAT 13°12'N, LONG 71°12'W. What are the latitude and longitude of the point of arrival by mid-latitude sailing?	LAT 14°17'N, LONG 61°23'W	LAT 14°20'N, LONG 61°21'W	LAT 14°23'N, LONG 61°19'W	LAT 14°25'N, LONG 61°17'W	
5	305	B	A vessel steams 666 miles on course 295°T from LAT 24°24'N, LONG 83°00'W. What are the latitude and longitude of the point of arrival by mid-latitude sailing?	LAT 29°01'N, LONG 94°18'W	LAT 29°06'N, LONG 94°16'W	LAT 29°10'N, LONG 94°10'W	LAT 29°13'N, LONG 94°06'W	
5	306	B	A vessel steams 640 miles on course 047°T from LAT 34°45'N, LONG 140°00'E. What are the latitude and longitude of the point of arrival by mid-latitude sailing?	LAT 41°57'N, LONG 150°02'E	LAT 42°01'N, LONG 149°57'E	LAT 42°06'N, LONG 149°53'E	LAT 42°09'N, LONG 149°50'E	
5	307	C	A vessel at LAT 28°00'N, LONG 116°00'W is to proceed to LAT 34°00'N, LONG 123°40'W. What is the course and distance by mid-latitude sailing?	323°T, 428 miles	324°T, 453 miles	312°T, 533 miles	302°T, 539 miles	
5	308	B	A vessel at LAT 20°00'N, LONG 107°30'W is to proceed to LAT 24°40'N, LONG 112°30'W. What is the course and distance by mid-latitude sailing?	314.0°T, 389.0 miles	315.3°T, 394.0 miles	317.2°T, 397.0 miles	318.3°T, 399.0 miles	
5	309	D	A vessel at LAT 14°10'N, LONG 61°00'W is to proceed to LAT 10°00'N, LONG 53°23'W. What is the course and distance by mid-latitude sailing?	117.3°T, 503.0 miles	117.9°T, 504.0 miles	118.6°T, 508.0 miles	119.2°T, 512.0 miles	
5	310	A	A vessel at LAT 28°20'N, LONG 16°00'W is to proceed to LAT 21°00'N, LONG 18°00'W. What is the course and distance by mid-latitude sailing?	194.0°T, 453.0 miles	195.2°T, 451.0 miles	196.8°T, 450.0 miles	197.3°T, 448.0 miles	
5	311	C	A vessel at LAT 20°10'N, LONG 122°00'E is to proceed to LAT 26°18'N, LONG 128°20'E. What are the course and distance by mid-latitude sailing?	041.2°T, 501.0 miles	041.9°T, 503.6 miles	043.5°T, 507.3 miles	044.7°T, 509.7 miles	
5	312	B	A vessel at LAT 07°05'N, LONG 81°45'W is to proceed to LAT 08°40'N, LONG 88°00'W. What are the course and distance by mid-latitude sailing?	283.1°T, 381.2 miles	284.3°T, 384.6 miles	285.6°T, 385.0 miles	286.8°T, 387.4 miles	

5	313	A	At 1400, your position is LAT 37°14.7'N, LONG 76°22.3'W. From this position, you head for the York River Entrance Channel Buoy "17". What should you steer per standard magnetic compass for this heading?	125°psc	122°psc	119°psc	108°psc	
5	314	B	At 1430, your position is LAT 37°12.8'N, LONG 76°17.7'W. At this time, you come left and steer 045°T. This course will lead you through a channel bordered by yellow buoys. The dashed magenta lines between the buoys mark _____.	York River Entrance Channel	Fish trap areas	the piloting channel for Mobjack Bay	New Point Comfort shoal area	
5	315	C	From your 1430 fix, you order turns for 8 knots. You steer 045°T and experience no set and drift. At what time would you expect to have New Point Comfort Spit Light "4" abeam?	1510	1504	1458	1452	
5	316	C	From your 1830 fix, you continue south on a course of 150°T turning RPMs for 6 knots. You encounter a flood current in the direction of 330°T at 2 knots. Adjusting your course for set and drift, which course would you steer to make good a course of 150°T while turning RPMs for 6 knots?	162°T	158°T	150°T	144°T	
5	317	C	Determine your 1915 position using the following information obtained at 1915. Visual bearings Cape Charles Light 107°pgc Cape Henry Light 172°pgc  Radar Bearing and Range Chesapeake Channel Tunnel South Light 189°pgc at 7.2 miles	LAT 37°03.5'N, LONG 76°05.9'W	LAT 37°03.5'N, LONG 76°09.3'W	LAT 37°09.3'N, LONG 76°03.1'W	LAT 37°09.8'N, LONG 76°04.1'W	
5	318	A	From your 1915 fix you come right and steer a course of 200°T. At 2000, your position is LAT 37°05.5'N, LONG 76°07.0'W. Your intention is to pass through Chesapeake Channel. If there are no set and drift, what course would you steer per standard magnetic compass to make good a course of 145°T?	156°	151°	139°	134°	

5	319	D	At 2100, you have passed through the Chesapeake Bay Bridge and Tunnel and determine your position to be LAT 37°01.3'N, LONG 76°03.0'W. The current is flooding in a direction of 303°T at 2.5 knots. Adjusting your course for set and drift, which course would you steer while turning RPMs for 6 knots to make good a course of 175°T?	190°T	183°T	164°T	156°T	
5	320	A	At 2150, your position is LAT 36°57.2'N, LONG 76°01.3'W. In this position on the chart, you note a light magenta line running in a direction of 030°T. This line indicates the limits of _____.	a pilotage area	a precautionary area	the Cape Henry Light red sector	chart 12222	
5	321	C	At 2200, you are in position LAT 36°57.5'N, LONG 76°02.5'W. You intend to travel up the Thimble Shoals auxiliary Channel to Hampton Roads. According to the Coast Pilot, what is the depth of the auxiliary channel on either side of the main channel?	45 feet (13.7 meters)	36 feet (11.0 meters)	32 feet (9.8 meters)	28 feet (8.5 meters)	
5	352	C	What is the approximate distance to New Bedford, MA, from your 0530 DR position, if your 0352 position was 7 miles from Bridgeport, CT?	122 miles	115 miles	104 miles	95 miles	
5	353	C	At 0550, engineering repairs are complete and speed is increased to 9.6 knots. At 0630, Falkner Island Light bears 023°pgc and Horton Point Light bears 097°pgc. From your 0630 fix you steer to make good a course of 086°T while turning for 9.6 knots. At 0700, Falkner Island Light bears 336.0°pgc and Horton Point Light bears 105.5°pgc. The radar range to the south tip of Falkner Island is 5.7 miles. Which statement is TRUE?	Your course made good from 0630 to 0700 was 082°T.	The speed made good from 0630 to 0700 was 10.1 knots.	You are making good your intended speed.	The current from 0630 to 0700 was 279°T at 0.6 knot.	
5	354	A	The south shore of Long Island Sound from Horton Point to Orient Point is _____.	bluff and rocky	low and marshy	marked by sandy beaches and wooded uplands	bound by gradual shoaling	
5	355	D	Orient Point Light will break the horizon at a range of about _____.	9.3 miles	10.8 miles	12.1 miles	13.9 miles	

			At 0410, you take the following bearings:  New Point Comfort Light "2"      242°T Wolf Trap Light                      313°T Horn Harbor Entrance Light "HH" 262°T					
5	356	B	What is your 0410 position?	LAT 37°20.9'N, LONG 76°07.7'W	LAT 37°21.0'N, LONG 76°08.1'W	LAT 37°21.1'N, LONG 76°07.9'W	LAT 37°21.2'N, LONG 76°08.2'W	
5	357	A	If the visibility is 5 miles and you are in the red sector, at what distance off should you sight Cape Henry Light?	09 miles	11 miles	13 miles	15 miles	
5	358	C	From your 0410 fix, what is the course per standard magnetic compass to the entrance to York Spit Channel between buoys "37" and "38"?	152°	156°	176°	178°	
5	359	C	You are turning for 9 knots, a westerly wind is causing 3° of leeway, and the current is 320°T at 1.2 knots. What true course should you steer to remain in the northern leg of York Spit Channel?	203°T	197°T	194°T	191°T	
5	360	A	If you are making 8.3 knots over the ground, what is your ETA at the first turning point in York Spit Channel between buoys "29" and "30"?	0522	0508	0456	0448	
5	361	A	Which publication contains the specific information about navigating in York Spit Channel?	Coast Pilot	Light List	Chesapeake Bay Harbor- master's Regulations Manual	Navigator's Manual - Chesapeake Bay	
5	362	A	At 0530, the Coast Guard announces that Chesapeake Channel is closed indefinitely due to a collision occurring in the channel between Trestle "B" and "C" of the Chesapeake Bay Bridge and Tunnel. You exit York Spit Channel, leaving buoy "20" abeam to port at 0.1 mile, and alter course to leave Horseshoe Crossing Lighted Bell Buoy abeam to port at 0.2 mile. What is the course per gyrocompass?	193°pgc	190°pgc	187°pgc	185°pgc	
5	363	D	After you enter Thimble Shoal Channel, you will alter course to pass between Trestle "A" and "B". Which channel should you use?	Thimble Shoal Main Channel or the South Auxiliary Channel	Any of the channels but keep to the right hand side	Thimble Shoal Main Channel	The South Auxiliary Channel	
5	364	D	As you pass through the Chesapeake Bay Bridge and Tunnel, you sight Trestle "A" in line bearing 198°pgc. What is the gyro error?	2°E	0°E	1°W	2°W	

5	365	C	You sighted Trestle "A" in line at 0707 and are steering 108°T. At 0731, Cape Henry Light bears 136°T; Cape Charles Light bears 032.5°T; and Thimble Shoal Tunnel South Light bears 282°T. What was the speed made good between 0707 and 0731?	9.4 knots	9.2 knots	8.8 knots	8.3 knots	
5	366	B	At 0731, approximately how much water is under your keel?	26 feet (7.9 meters)	31 feet (9.4 meters)	48 feet (14.5 meters)	54 feet (16.4 meters)	
5	367	D	What is the distance from your 0731 fix to Wilmington, N.C. (LAT 34°14.0'N, LONG 77°57.0'W)?	486 miles	402 miles	363 miles	339 miles	
5	368	C	You will enter waters governed by the International Rules when _____.	you cross the territorial sea boundary line	abeam of buoy "CBJ"	Cape Charles Light bears 022°T	you cross the boundary of the contiguous zone	
5	369	C	At 0812, you take the following loran readings:  9960-X-27155.2 9960-Y-41267.9 9960-Z-58537.8  What is your 0812 position?	LAT 36°53.7'N, LONG 75°56.0'W	LAT 36°53.8'N, LONG 75°56.1'W	LAT 36°54.6'N, LONG 75°55.8'W	LAT 36°55.2'N, LONG 75°55.4'W	
5	370	D	At 0812, you are on course 132°T. The standard magnetic compass reads 135°. What should you conclude?	The deviation table is correct for that heading.	You should adjust the magnetic compass.	The deviation is increasing as you go south.	Your compass may be influenced by a local magnetic disturbance.	
5	371	C	You are steering 087°pgc and turning for 6.8 knots. At 0600, you take the following loran readings:  9960-W-14784.4 9960-X-26208.3 9960-Y-43959.1  What is your 0600 position?	LAT 41°11.2'N, LONG 72°14.6'W	LAT 41°11.7'N, LONG 72°14.4'W	LAT 41°12.1'N, LONG 72°13.8'W	LAT 41°12.5'N, LONG 71°14.9'W	
5	372	B	If you change course at 0610, what is the course to steer to a point where Little Gull Island Light bears 180°T at 0.7 mile (Point "A")?	084°pgc	080°pgc	076°pgc	072°pgc	
5	373	C	What is your ETA at point "A"?	0702	0655	0651	0640	

5	374	B	You calculate that the current will be ebbing at the Race at 0700. You should expect to be set in which general direction at the Race?	West	East	Northeast	North	
5	375	C	As you near Little Gull Island, you use your loran to insure that you do not come within 0.5 mile of the island. Which of the following loran readings will act as a danger line and keep you off Little Gull Island by a minimum of 0.5 mile?	Not less than 9960-W-14735.8	Not more than 9960-W-14735.9	Not less than 9960-Y-43953.5	Not more than 9960-X-26149.0	
5	376	C	You depart LAT 40°42.0'N, LONG 74°01.0'W, and steam 3365.6 miles on course 118°T. What is the longitude of your arrival by Mercator sailing?	24°29.0'W	22°58.0'W	17°41.0'W	10°46.0'W	
5	377	A	You depart LAT 22°35.0'N, LONG 157°30.0'W, and steam 4505.0 miles on course 135°T. What are the latitude and longitude of your arrival by Mercator sailing?	30°30.5'S, 102°35.3'W	30°30.5'S, 104°30.0'W	32°20.0'S, 102°35.3'W	32°20.0'S, 104°30.0'W	
5	378	C	A vessel at LAT 37°24.0'N, LONG 178°15.0'W, heads for a destination at LAT 34°18.0'N, LONG 178°25.0'E. Determine the true course and distance by Mercator sailing.	041°T, 273.9 miles	047°T, 273.9 miles	221°T, 247.2 miles	227°T, 247.2 miles	
5	379	B	A vessel at LAT 32°05.0'N, LONG 81°06.0'W, heads for a destination at LAT 35°57.0'N, LONG 5°45.0'W. Determine the distance by Mercator sailing.	3128.2 miles	3770.6 miles	4126.1 miles	4508.0 miles	
5	380	C	A vessel at LAT 21°18.5'N, LONG 157°52.2'W, heads for a destination at LAT 8°53.0'N, LONG 79°31.0'W. Determine the true course and distance by Mercator sailing.	081°T, 4617.5 miles	081°T, 4915.8 miles	099°T, 4617.5 miles	099°T, 4915.8 miles	
5	381	A	At 1540, your position is LAT 37°18.4'N, LONG 76°10.5'W. Which course should you steer per gyrocompass to head for the entrance to Cape Charles City?	129°pgc	123°pgc	117°pgc	109°pgc	

5	382	D	<p>You arrive at Cape Charles City at 1700 and depart at 1800. You are underway in Chesapeake Bay and encounter heavy fog. At 1830, you obtain the following Loran-C readings:</p> <p>9960-X-27224 9960-Y-41456 9960-Z-58572</p> <p>What is your 1830 position?</p>	LAT 37°10.3'N, LONG 76°04.5'W	LAT 37°10.3'N, LONG 76°06.5'W	LAT 37°12.3'N, LONG 76°06.5'W	LAT 37°12.3'N, LONG 76°04.4'W	
5	383	A	<p>From point "A", you lay out an intended track line to a point where Block Island North Light bears 180°T at 2.9 miles (Point "B"). What is the length of this leg of the voyage?</p>	24.4 miles	23.9 miles	23.7 miles	20.4 miles	
5	384	B	<p>What is the course per standard magnetic compass between points "A" and "B"?</p>	099.5°	098.5°	095.5°	094.5°	
5	385	D	<p>At 0715 you take the following bearings:</p> <p>Race Rock Light 328°pgc Little Gull Island Light 249°pgc Mt. Prospect Antenna 036°pgc</p> <p>Based on your 0715 fix, which statement is TRUE?</p>	You are governed by the Inland Rules.	Your fathometer reads about 265 fathoms.	You are in a cable area.	You are to the left of your track line.	
5	386	D	<p>From your 0715 position, you set a course of 085°T. At 0745 you take the following bearings:</p> <p>Race Rock Light 278°pgc Watch Hill Light 049°pgc Fisher's Island East Harbor Cupola 010°pgc</p> <p>What was the current encountered between 0715 and 0745?</p>	Set 030°T, drift 0.4 knot	Set 216°T, drift 0.3 knot	Set 238°T, drift 0.9 knot	Set 070°T, drift 0.6 knot	
5	387	A	<p>The wind is southerly, and you estimate 3° leeway. Allowing for leeway, what is the course to steer from your 0745 position to pass 1 mile south of Watch Hill Buoy "WH"?</p>	087°pgc	085°pgc	081°pgc	079°pgc	

5	388	C	From your 0745 fix, you change course to pass 1.0 mile south of buoy "WH" and estimate your speed at 7 knots. If the visibility clears, what is the earliest time you can expect to see Block Island North Light tower?	0845	0838	0807	0750	
5	389	C	Which statement describes the shore between Watch Hill Point and Point Judith?	Low, rocky cliffs	Heavily wooded hills	Sandy beaches broken by rocky points	Barren hills with prominent buildings	
5	390	B	A vessel at LAT 29°38.0'N, LONG 93°49.0'W, heads for a destination at LAT 24°38.0'N, LONG 82°55.2'W. Determine the true course and distance by Mercator sailing.	115°T, 637 miles	117°T, 658 miles	122°T, 648 miles	126°T, 665 miles	
5	391	D	A vessel at LAT 40°42.0'N, LONG 74°01.0'W, heads for a destination at LAT 14°41.0'N, LONG 17°26.0'W. Determine the true course and distance by Mercator sailing.	123°T, 3066.5 miles	123°T, 3065.6 miles	118°T, 3066.5 miles	118°T, 3365.0 miles	
5	392	C	A vessel at LAT 32°14.7'N, LONG 66°28.9'W, heads for a destination at LAT 36°58.7'N, LONG 75°42.2'W. Determine the true course by Mercator sailing.	058.2°T	235.2°T	301.8°T	348.3°T	
5	393	D	A vessel at LAT 32°14.7'N, LONG 66°28.9'W, heads for a destination at LAT 36°58.7'N, LONG 75°42.2'W. Determine the distance by Mercator sailing.	241.2° miles	270.2° miles	300.2° miles	538.2° miles	
5	394	A	A vessel at LAT 38°03.0'S, LONG 49°38.0'W, heads for a destination at LAT 41°26.0'S, LONG 38°32.0'W. Determine the true course by Mercator sailing.	111.5°T	113.5°T	158.5°T	160.5°T	
5	395	A	A vessel at LAT 45°36.0'N, LONG 11°36.0'W, heads for a destination at LAT 24°16.0'N, LONG 73°52.0'W. Determine the true course and distance by Mercator sailing.	247°T, 3299.3 miles	247°T, 3951.6 miles	251°T, 3298.5 miles	251°T, 3951.6 miles	
5	396	B	A vessel at LAT 10°22.0'S, LONG 7°18.0'E, heads for a destination at LAT 6°52.0'N, LONG 57°23.0'W. Determine the true course and distance by Mercator sailing.	285°T, 3825.3 miles	285°T, 4025.7 miles	296°T, 3825.3 miles	296°T, 4025.7 miles	
5	397	B	Your vessel departs LAT 32°45'N, LONG 79°50'W, and is bound for LAT 34°21'S, LONG 18°29'E. Determine the distance by Mercator sailing.	5,021 miles	6,884 miles	6,954 miles	7,002 miles	

5	398	A	You depart LAT 32°16.6'N, LONG 68°28.0'W. What is the course and distance as calculated by Mercator sailing to a position at LAT 43°12.2'N, LONG 55°39.0'W?	042.8°T, 896.2 miles	049.1°T, 955.1 miles	132.8°T, 896.2 miles	136.6°T, 955.1 miles
5	399	D	A vessel at LAT 11°22'S, LONG 009°18'E heads for a destination at LAT 06°52'N, LONG 57°23'W. Determine the true course and distance by Mercator sailing.	296°T, 3,825.3 miles	296°T, 4,154.2 miles	285°T, 3,825.3 miles	285°T, 4,154.2 miles
5	400	B	Your vessel receives a distress call from a vessel reporting her position at LAT 5°24'N, LONG 31°16'W. Your position is LAT 2°39'S, LONG 39°24'W. Determine the distance from your vessel to the vessel in distress by Mercator sailing.	669.3 miles	688.7 miles	699.2 miles	712.9 miles
5	401	C	Your vessel receives a distress call from a vessel reporting her position as LAT 35°01'S, LONG 18°51'W. Your position is LAT 30°18'S, LONG 21°42'W. Determine the true course from your vessel to the vessel in distress by Mercator sailing.	135°T	149°T	153°T	160°T
5	402	C	A vessel at LAT 38°36'N, LONG 11°36'W, heads for a destination at LAT 24°16'N, LONG 71°52'W. Determine the true course and distance by Mercator sailing.	236.4°T, 2,916.9 miles	254.4°T, 2,916.9 miles	254.4°T, 3,203.6 miles	285.6°T, 3,203.6 miles
5	403	B	You receive a distress call from a vessel reporting her position as LAT 30°21'N, LONG 88°34'W. Your position is LAT 24°30'N, LONG 83°00'W. Determine the true course and distance to the distress scene by Mercator sailing.	317°T, 470 miles	320°T, 460 miles	322°T, 455 miles	324°T, 460 miles
5	405	D	You depart LAT 33°45.0'N, LONG 118°30.0'W, and steam 2216 miles on course 250°T. What is the longitude of your arrival by Mercator sailing?	LONG 156°08.0'W	LONG 156°36.0'W	LONG 157°21.0'W	LONG 157°31.0'W
5	406	B	You depart LAT 49°45.0'N, LONG 06°35.0'W, and steam 3599 miles on course 246.5°T. What is the longitude of your arrival by Mercator sailing?	LONG 76°36.2'W	LONG 77°02.8'W	LONG 78°14.0'W	LONG 78°22.6'W
5	407	A	You depart LAT 34°22'S, LONG 18°23'E, and steam 3174 miles on course 282°T. What is the longitude of your arrival by Mercator sailing?	LONG 40°33.5'W	LONG 40°19.5'W	LONG 40°18.2'W	LONG 40°17.3'W

5	408	C	You depart LAT 37°36'N, LONG 123°00'W, and steam 2022 miles on course 241°T. What is the longitude of your arrival by Mercator sailing?	LONG 163°28.2'W	LONG 163°18.2'W	LONG 156°51.7'W	LONG 154°18.3'W	
5	322	B	From your 2200 fix, you steer course 288°T to travel up the Thimble Shoal North Auxiliary Channel. If you are making good 6.0 knots, at what time would you expect to pass buoy "18" at the west end of the channel? (There are no set and drift.)	2355	2344	2335	2324	
5	323	C	At 2205, you are in Thimble Shoal North Auxiliary Channel abeam of lighted gong buoy "4". At this time the visibility decreases to 5 miles. You continue to turn RPMs for 6 knots and experience no set and drift. What time would you expect Old Point Comfort Light (white sector) to become visible?	2258	2246	2240	2230	
5	324	B	The mean high water level at Old Point Comfort is _____.	3.3 feet (1.1 meters)	2.6 feet (0.8 meters)	1.2 feet (0.4 meters)	0.0	
5	325	B	You are entering Norfolk Harbor and have just passed Craney Island. Which chart should you use for your final approach into Norfolk Harbor?	12263	12253	12248	12238	
5	326	C	Your 0200 position is LAT 37°23.5'N, LONG 76°09.2'W. Your speed is 8 knots, and your course is 095°T. Which statement is TRUE?	The depth of the water in your vicinity is about 38 to 40 fathoms (69.1 meters to 72.7 meters).	The closest major aid to navigation is New Point Comfort.	You are less than a mile from a sunken wreck which could interfere with your tow.	You will pass through a disposal area on your present course.	
5	327	C	At 0315, you obtain the following loran readings:  9960-Y-41588.0 9960-X-27240.0  What is the true course from this position to the entrance of York Spit Channel?	217°	211°	208°	203°	
5	328	D	From your 0315 position, what time can you expect to reach York Spit Channel Buoys "37" and "38"?	0423	0417	0412	0405	

5	329	B	The engineer has advised that it will be necessary to secure the gyrocompass and the electronic equipment. From your 0315 position, what is your course per standard magnetic compass to York Spit Channel Buoy "38", if there is no current?	218°psc	216°psc	214°psc	212°psc
5	330	D	Which chart could you use for greater detail of the area at the south end of York Spit Channel?	12254	12226	12224	12222
5	331	B	You leave York Spit Channel at buoy "14" at 0600 with an engine speed of 12 knots. You receive orders to rendezvous with the tug "Quicksilver" and her tow at Hog Island Bell Buoy "12". What is your ETA at the rendezvous point, if you pass through Chesapeake Channel to buoy "CBJ", through the outbound traffic separation lane to buoy "NCA" (LL#375), and then to the rendezvous point?	0935	0910	0850	0830
5	332	A	You arrive at the rendezvous point, secure the tow, and head back southward. At 1200, you take the following loran readings:  9960-Y-41534 9960-X-27114 9960-Z-58691  What is your 1200 position?	LAT 37°15.0'N, LONG 75°37.5'W	LAT 37°16.0'N, LONG 75°38.0'W	LAT 37°17.0'N, LONG 75°39.5'W	LAT 37°19.0'N, LONG 75°40.5'W
5	333	C	From your noon position, if there is no set and drift, what is your course per standard magnetic compass to the "NCA" (LL #375) buoy?	221°psc	219°psc	217°psc	215°psc
5	334	D	Your gyro and electronic gear are again operating. At 1710, Chesapeake Light bears 137°pgc at 6.6 miles. The current is setting 160°T at 2 knots. At your speed of 6 knots, what is your true course to steer to remain in the inbound traffic lane?	250°	261°	265°	269°

			At 1810, you obtain the following loran readings:  9960-X-27158.0 9960-Y-41292.5 9960-Z-58546.9					
5	335	C	What is your position?	LAT 36°56.0'N, LONG 75°58.5'W	LAT 36°55.4'N, LONG 75°56.0'W	LAT 36°56.8'N, LONG 75°55.6'W	LAT 36°57.4'N, LONG 75°54.6'W	
5	336	A	What speed have you made good from 1710 to 1810?	6.3 knots	5.5 knots	4.9 knots	4.2 knots	
5	337	D	If you make good a speed of 6.0 knots from your 1810 position, what is your ETA at Chesapeake Channel Lighted Bell Buoy "2C"?	1900	1855	1845	1833	
5	338	C	You passed Cape Henry Light at 0730 outbound at maximum flood. What approximate current can you expect on entering Chesapeake Channel?	Slack before ebb	Slack before flood	Flood current	Ebb current	
5	339	C	The coastline by Cape Henry is best described as _____.	rocky with pine scrubs	low wetlands	sandy hills about eighty feet high	low and thinly wooded with many beach houses	
5	340	D	Inbound, the color of Cape Henry Light will _____.	alternate regardless of your position	change after you reach Chesapeake Channel Lighted Bell Buoy "2C"	remain the same	change before you reach Chesapeake Channel Lighted Bell Buoy "2C"	
5	341	A	You are on course 082°T, and the engines are turning for 8 knots. At 0352, you take the following bearings:  Stratford Point Light 016°pgc Stratford Shoal (Middle Ground) Light 137°pgc  What is your 0352 position?	LAT 41°05.2'N, LONG 73°07.8'W	LAT 41°05.4'N, LONG 73°07.3'W	LAT 41°05.3'N, LONG 73°07.5'W	LAT 41°05.4'N, LONG 73°07.7'W	
5	342	B	If the visibility is 11 miles, what is the earliest time you can expect to see New Haven Light?	The light is visible at 0352.	0443	0414	You will not sight the light.	
5	343	A	While on a heading of 082°T, you sight Middle Ground Light in line with Old Field Point Light bearing 206° per standard magnetic compass. From this you can determine the _____.	deviation table is correct for that heading	variation	compass error is 17.5°E	deviation is 3.5°E for a bearing of 206° per standard magnetic compass	
5	344	D	The maximum ebb current at a location 4.3 miles south of Stratford Point will occur at 0413. The predicted current will be 1.0 knot at 075°. What will be your course made good if you steer 082°T at 8 knots?	087°T	085°T	083°T	081°T	

5	345	D	The characteristic of Branford Reef Light is _____.	flashing red every 4 seconds	flashing red every 3 seconds	flashing yellow every 4 seconds	flashing white every 6 seconds	
5	346	B	At 0415, you take the following bearings:  Stratford Point Light 329.5°pgc Middle Ground Light 223.5°pgc Old Field Point Light 199.5°pgc  Which statement is TRUE?	The current's drift is greater than predicted.	You are to the right of your intended track line.	The course made good since 0352 is 081°T.	Your fathometer reads about 76 fathoms.	
5	347	B	If you change course at 0420, what is the course to make good to leave Twenty Eight Foot Shoal Lighted Buoy abeam to port at 1 mile?	086°T	084°T	082°T	079°T	
5	348	C	At 0430, you take the following loran readings:  9960-X-26605.5 9960-Y-43985.0  What is your 0430 position?	LAT 41°08.9'N, LONG 73°00.0'W	LAT 41°05.0'N, LONG 73°01.1'W	LAT 41°05.8'N, LONG 73°00.8'W	LAT 41°06.5'N, LONG 73°01.4'W	
5	349	A	From your 0430 position, what is the course per standard magnetic compass to a position where Twenty-eight foot Shoal lighted buoy "TE" is abeam to port at 1 mile?	101.5°	098.0°	086.0°	082.5°	
5	350	D	By 0430, the wind has increased, and the visibility cleared due to passage of a front. You estimate 3° leeway due to NW'ly winds. What is the course per gyrocompass to pass 1.2 miles due south of Twenty-eight Foot Shoal Lighted Buoy "TE"?	090°	086°	083°	080°	
5	351	C	At 0430, you change course and speed to make good 090°T at 10 knots. At 0433, you slow due to an engineering casualty and estimate you are making good 5.5 knots. At what time will Branford Reef Light bear 000°T?	0624	0620	0609	0601	
5	409	C	A vessel steams 1082 miles on course 047°T from LAT 37°18.0'N, LONG 24°40.0'W. What is the latitude and longitude of the point of arrival by Mercator sailing?	LAT 49°30.0'N, LONG 06°22.0'W	LAT 49°33.0'N, LONG 06°25.0'W	LAT 49°36.0'N, LONG 06°28.0'W	LAT 49°39.0'N, LONG 06°31.0'W	
5	410	B	A vessel steams 666 miles on course 135°T from LAT 40°24.0'N, LONG 74°30.0'W. What is the latitude and longitude of the point of arrival by Mercator sailing?	LAT 32°30.0'N, LONG 64°41.0'W	LAT 32°33.0'N, LONG 64°46.0'W	LAT 32°36.0'N, LONG 64°49.0'W	LAT 32°39.0'N, LONG 64°53.0'W	

5	411	D	A vessel steams 3312 miles on course 282°T from LAT 34°24'S, LONG 18°18'E. What is the latitude and longitude of the point of arrival by Mercator sailing?	LAT 22°39'S, LONG 43°17'W	LAT 22°42'S, LONG 43°14'W	LAT 22°47'S, LONG 43°10'W	LAT 22°55'S, LONG 43°05'W	
5	412	B	A vessel steams 1650 miles on course 077°T from LAT 12°47'N, LONG 45°10'E. What is the latitude and longitude of the point of arrival by Mercator sailing?	LAT 18°54'N, LONG 72°58'E	LAT 18°58'N, LONG 72°52'E	LAT 19°02'N, LONG 72°44'E	LAT 19°06'N, LONG 72°36'E	
5	413	B	A vessel steams 1106 miles on course 249°T from LAT 13°30.0'N, LONG 144°30.3'E. What is the latitude and longitude of the point of arrival by Mercator sailing?	LAT 07°01.0'N, LONG 127°02.0'E	LAT 06°54.0'N, LONG 127°08.0'E	LAT 06°50.0'N, LONG 127°13.0'E	LAT 06°46.0'N, LONG 127°17.0'E	
5	414	A	A vessel at LAT 49°45'N, LONG 6°35'W, heads for a destination at LAT 25°50'N, LONG 77°00'W. Determine the true course and distance by Mercator sailing.	246.5°T, 3597 miles	253.0°T, 3648 miles	268.6°T, 3483 miles	066.4°T, 3602 miles	
5	415	C	A vessel at LAT 33°45'N, LONG 118°30'W, heads for a destination at LAT 21°15'N, LONG 157°36'W. Determine the true course and distance by Mercator sailing.	109.8°T, 2196 miles	236.3°T, 2259 miles	250.2°T, 2216 miles	289.2°T, 2413 miles	
5	416	C	A vessel at LAT 18°54'N, LONG 73°00'E, heads for a destination at LAT 13°12'N, LONG 54°00'E. Determine the true course and distance by Mercator sailing.	247°T, 1161 miles	250°T, 1172 miles	253°T, 1154 miles	256°T, 1136 miles	
5	417	C	A vessel at LAT 21°32'N, LONG 160°30'W, heads for a destination at LAT 30°00'N, LONG 150°00'E. Determine the true course and distance by Mercator sailing.	273°T, 2645 miles	273°T, 2692 miles	281°T, 2733 miles	284°T, 2762 miles	
5	418	A	At 0830, Watch Hill Point bears 343°T at 3.5 miles by radar. What was the speed made good since 0745?	7.1 knots	6.7 knots	5.8 knots	5.4 knots	
5	419	D	At 0900, you take the following radar ranges:  Watch Hill Point           5.4 miles Block Island Grace Point 8.3 miles  Which statement about this fix is TRUE?	You are to the left of the track line.	The bottom in the area is sand and gravel.	You are governed by the Inland Rules.	The fix is indeterminate.	

5	420	A	At 0930, your position is LAT 41°16.5'N, LONG 71°41.4'W, and you are turning for 7 knots. Allowing 3° leeway for southerly winds and estimating the current as 035° at 0.3 knot, what is the course to steer (pgc) to point "B"?	096°pgc	094°pgc	091°pgc	089°pgc	
5	421	C	At 0345, you set a course to depart New London Harbor. Assuming no set and drift, which standard magnetic compass course must you steer to stay in the middle of the channel?	192°psc	190°psc	187°psc	175°psc	
5	2865	C	You are steering a course of 240°T, and a lighthouse bears 025° on the starboard bow at 2116. At 2144 the same lighthouse bears 050° on the starboard bow, and you have run 6 miles since the first bearing. What is the ETA when the lighthouse is abeam?	2156	2159	2202	2205	
5	2866	C	Your vessel is on a course of 311°T at 21 knots. At 1957 a light bears 337.5°T, and at 2018 the light bears 356°T. At what time and at what distance off will your vessel be when abeam of the light?	2027, 5.2 miles	2033, 6.8 miles	2039, 7.4 miles	2043, 10.3 miles	
5	2867	B	Your vessel is on a course of 144°T at 20 knots. At 0022 a light bears 117.5°T, and at 0035 the light bears 099°T. At what time and at what distance off will your vessel be when abeam of the light?	0044, 3.2 miles	0048, 4.3 miles	0052, 5.1 miles	0056, 6.0 miles	
5	2868	A	Your vessel is on a course of 358°T at 19 knots. At 0316 a light bears 024.5°T, and at 0334 the light bears 043°T. At what time and at what distance off will your vessel be when abeam of the light?	0352, 5.7 miles	0355, 6.2 miles	0359, 7.1 miles	0403, 8.0 miles	
5	2869	C	Your vessel is on a course of 237°T at 18 knots. At 0404 a light bears 263.5°T, and at 0430 the light bears 282°T. At what time and at what distance off will your vessel be when abeam of the light?	0448, 6.8 miles	0452, 7.2 miles	0456, 7.8 miles	0500, 8.4 miles	
5	2870	B	Your vessel is on a course of 126°T at 17 knots. At 0251 a light bears 099.5°T, and at 0313 the light bears 081°T. At what time and at what distance off will your vessel be when abeam of the light?	0327, 4.4 miles	0335, 6.2 miles	0345, 6.8 miles	0351, 7.4 miles	

5	2871	D	Your vessel is on a course of 052°T at 16 knots. At 0916 a light bears 078.5°T, and at 0927 the light bears 097°T. At what time and at what distance off will your vessel be when abeam of the light?	0929, 2.0 miles	0932, 2.3 miles	0935, 2.6 miles	0938, 2.9 miles	
5	2872	B	Your vessel is on a course of 272°T at 15 knots. At 2113 a light bears 245.5°T, and at 2120 the light bears 227°T. At what time and at what distance off will your vessel be when abeam of the light?	2124, 1.3 miles	2127, 1.8 miles	2131, 2.3 miles	2135, 2.7 miles	
5	2873	D	Your vessel is on a course of 103°T at 14 knots. At 1918 a light bears 129.5°T, and at 1937 the light bears 148°T. At what time and at what distance off will your vessel be when abeam of the light?	1947, 2.8 miles	1950, 3.2 miles	1953, 3.8 miles	1956, 4.4 miles	
5	2874	D	Your vessel is on a course of 207°T at 13 knots. At 0539 a light bears 180.5°T, and at 0620 the light bears 162°T. At what time and at what distance off will your vessel be when abeam of the light?	0633, 5.9 miles	0641, 6.5 miles	0653, 7.6 miles	0701, 8.9 miles	
5	2875	C	Your vessel is on a course of 316°T at 12 knots. At 2326 a light bears 289.5°T, and at 2354 the light bears 271°T. At what time and at what distance off will your vessel be when abeam of the light?	0014, 4.8 miles	0018, 5.2 miles	0022, 5.6 miles	0026, 6.4 miles	
5	2877	B	Your vessel is steering 263°T at 22 knots. At 0413 a light bears 294°T, and at 0421 the same light bears 312°T. What will be your distance off abeam?	3.4 miles	3.7 miles	4.3 miles	4.9 miles	
5	2878	C	Your vessel is steering 143°T at 16 knots. At 2147 a light bears 106°T, and at 2206 the same light bears 078°T. What will be your distance off abeam?	5.1 miles	5.4 miles	5.9 miles	6.5 miles	
5	2879	A	Your vessel is steering 354°T at 14 knots. At 0317 a light bears 049°T, and at 0342 the same light bears 071°T. What will be your distance off abeam?	12.4 miles	12.7 miles	13.0 miles	13.3 miles	

5	2880	B	Your vessel is steering 218°T at 19 knots. At 2223 a light bears 261°T, and at 2234 the same light bears 289°T. What will be your distance off abeam?	4.5 miles	4.9 miles	5.3 miles	5.7 miles	
5	2881	A	Your vessel is steering 049°T at 15 knots. At 1914 a light bears 078°T, and at 1951 the same light bears 116°T. What will be your distance off abeam?	6.7 miles	7.1 miles	7.5 miles	8.3 miles	
5	2882	C	Your vessel is steering 096°T at 17 knots. At 1847 a light bears 057°T, and at 1916 the same light bears 033°T. What will be your distance off abeam?	9.9 miles	10.7 miles	11.4 miles	11.9 miles	
5	2883	B	Your vessel is steering 157°T at 18 knots. At 2018 a light bears 208°T. At 2044 the same light bears 232°T. What will be your distance off when abeam?	12.8 miles	14.4 miles	15.2 miles	16.7 miles	
5	2884	C	Your vessel is steering 238°T at 11 knots. At 2304 a light bears 176°T, and at 2323 the same light bears 155°T. What will be your distance off abeam?	7.5 miles	8.0 miles	8.5 miles	9.0 miles	
5	2885	C	Your vessel is steering 194°T at 13 knots. At 0116 a light bears 243°T, and at 0147 the same light bears 267°T. What will be your distance off abeam?	11.2 miles	11.6 miles	12.0 miles	12.5 miles	
5	2886	B	Your vessel is steering 074°T at 12 knots. At 0214 a light bears 115°T, and at 0223 the same light bears 135°T. What will be your distance off abeam?	2.4 miles	3.0 miles	3.5 miles	4.2 miles	
5	2887	B	Your vessel is steering 283°T at 10 knots. At 0538 a light bears 350°T, and at 0552 the same light bears 002°T. What will be your distance off abeam?	9.6 miles	10.3 miles	10.7 miles	11.3 miles	
5	2888	C	Your vessel is underway on a course of 323.5°T at a speed of 16 knots. At 1945° a light bears 350°T. At 2010 the light bears 008.5°T. What will be your distance off when abeam of the light?	3.3 miles	4.8 miles	6.7 miles	8.7 miles	
5	2889	A	While underway you sight a light 11° on your port bow at a distance of 12 miles. Assuming you make good your course, what will be your distance off the light when abeam?	2.3 miles	3.1 miles	3.9 miles	4.5 miles	

5	2890	B	You are steaming on a course of 084°T at a speed of 13 knots. At 1919 a lighthouse bears 106.5°T. At 1957 the same lighthouse bears 129°T. What will be your distance off the lighthouse when abeam?	4.3 miles	5.7 miles	7.1 miles	8.2 miles	
5	2891	A	You are steaming on course 168°T at a speed of 18 knots. At 1426 you sight a buoy bearing 144°T. At 1435 you sight the same buoy bearing 116°T. What is your distance off at the second bearing and predicted distance when abeam?	2.3 miles 2nd bearing, 1.8 miles abeam	2.5 miles 2nd bearing, 2.8 miles abeam	2.8 miles 2nd bearing, 1.8 miles abeam	3.3 miles 2nd bearing, 2.8 miles abeam	
5	2892	C	You are steaming on a course of 114°T at 17 knots. At 1122 you observe a lighthouse bearing 077°T. At 1133 the lighthouse bears 051°T. What is your distance off at the second bearing?	3.3 miles	3.9 miles	4.3 miles	4.9 miles	
5	4000	C	You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a magnetic compass heading of 057°. HEADING HEADING HEADING PSC PGC PSC PGC PSC PGC 358.5° - 350° 122.5° - 110° 239.5° - 230° 030.5° - 020° 152.0° - 140° 269.0° - 260° 061.5° - 050° 181.0° - 170° 298.0° - 290° 092.0° - 080° 210.0° - 200° 327.5° - 320°	1.0°E	1.5°E	1.5°W	0.5°W	
5	4001	A	You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a magnetic compass heading of 143°. HEADING HEADING HEADING PSC PGC PSC PGC PSC PGC 358.5° - 350° 122.5° - 110° 239.5° - 230° 030.5° - 020° 152.0° - 140° 269.0° - 260° 061.5° - 050° 181.0° - 170° 298.0° - 290° 092.0° - 080° 210.0° - 200° 327.5° - 320°	2.0°W	1.5°W	0.5°W	0.0°	

5	4002	D	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a true heading of 258°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 350°</td> <td>122.5°</td> <td>- 110°</td> <td>239.5°</td> <td>- 230°</td> </tr> <tr> <td>030.5°</td> <td>- 020°</td> <td>152.0°</td> <td>- 140°</td> <td>269.0°</td> <td>- 260°</td> </tr> <tr> <td>061.5°</td> <td>- 050°</td> <td>181.0°</td> <td>- 170°</td> <td>298.0°</td> <td>- 290°</td> </tr> <tr> <td>092.0°</td> <td>- 080°</td> <td>210.0°</td> <td>- 200°</td> <td>327.5°</td> <td>- 320°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 350°	122.5°	- 110°	239.5°	- 230°	030.5°	- 020°	152.0°	- 140°	269.0°	- 260°	061.5°	- 050°	181.0°	- 170°	298.0°	- 290°	092.0°	- 080°	210.0°	- 200°	327.5°	- 320°	0.5°W	0.0°	0.5°E	1.0°E
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 350°	122.5°	- 110°	239.5°	- 230°																																						
030.5°	- 020°	152.0°	- 140°	269.0°	- 260°																																						
061.5°	- 050°	181.0°	- 170°	298.0°	- 290°																																						
092.0°	- 080°	210.0°	- 200°	327.5°	- 320°																																						
5	4003	A	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a gyro heading of 058°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 354°</td> <td>122.5°</td> <td>- 114°</td> <td>239.5°</td> <td>- 234°</td> </tr> <tr> <td>030.5°</td> <td>- 024°</td> <td>152.0°</td> <td>- 144°</td> <td>269.0°</td> <td>- 264°</td> </tr> <tr> <td>061.5°</td> <td>- 054°</td> <td>181.0°</td> <td>- 174°</td> <td>298.0°</td> <td>- 294°</td> </tr> <tr> <td>092.0°</td> <td>- 084°</td> <td>210.0°</td> <td>- 204°</td> <td>327.5°</td> <td>- 324°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 354°	122.5°	- 114°	239.5°	- 234°	030.5°	- 024°	152.0°	- 144°	269.0°	- 264°	061.5°	- 054°	181.0°	- 174°	298.0°	- 294°	092.0°	- 084°	210.0°	- 204°	327.5°	- 324°	1.5°W	1.0°W	1.0°E	0.5°W
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 354°	122.5°	- 114°	239.5°	- 234°																																						
030.5°	- 024°	152.0°	- 144°	269.0°	- 264°																																						
061.5°	- 054°	181.0°	- 174°	298.0°	- 294°																																						
092.0°	- 084°	210.0°	- 204°	327.5°	- 324°																																						
5	4004	B	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a magnetic compass heading of 166°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 354°</td> <td>122.5°</td> <td>- 114°</td> <td>239.5°</td> <td>- 234°</td> </tr> <tr> <td>030.5°</td> <td>- 024°</td> <td>152.0°</td> <td>- 144°</td> <td>269.0°</td> <td>- 264°</td> </tr> <tr> <td>061.5°</td> <td>- 054°</td> <td>181.0°</td> <td>- 174°</td> <td>298.0°</td> <td>- 294°</td> </tr> <tr> <td>092.0°</td> <td>- 084°</td> <td>210.0°</td> <td>- 204°</td> <td>327.5°</td> <td>- 324°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 354°	122.5°	- 114°	239.5°	- 234°	030.5°	- 024°	152.0°	- 144°	269.0°	- 264°	061.5°	- 054°	181.0°	- 174°	298.0°	- 294°	092.0°	- 084°	210.0°	- 204°	327.5°	- 324°	2.0°W	1.5°W	1.0°W	0.5°W
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 354°	122.5°	- 114°	239.5°	- 234°																																						
030.5°	- 024°	152.0°	- 144°	269.0°	- 264°																																						
061.5°	- 054°	181.0°	- 174°	298.0°	- 294°																																						
092.0°	- 084°	210.0°	- 204°	327.5°	- 324°																																						

5	4005	C	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a magnetic compass heading of 022°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 354°</td> <td>122.5°</td> <td>- 114°</td> <td>239.5°</td> <td>- 234°</td> </tr> <tr> <td>030.5°</td> <td>- 024°</td> <td>152.0°</td> <td>- 144°</td> <td>269.0°</td> <td>- 264°</td> </tr> <tr> <td>061.5°</td> <td>- 054°</td> <td>181.0°</td> <td>- 174°</td> <td>298.0°</td> <td>- 294°</td> </tr> <tr> <td>092.0°</td> <td>- 084°</td> <td>210.0°</td> <td>- 204°</td> <td>327.5°</td> <td>- 324°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 354°	122.5°	- 114°	239.5°	- 234°	030.5°	- 024°	152.0°	- 144°	269.0°	- 264°	061.5°	- 054°	181.0°	- 174°	298.0°	- 294°	092.0°	- 084°	210.0°	- 204°	327.5°	- 324°	1.5°E	0.5°E	0.0°	0.5°W
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 354°	122.5°	- 114°	239.5°	- 234°																																						
030.5°	- 024°	152.0°	- 144°	269.0°	- 264°																																						
061.5°	- 054°	181.0°	- 174°	298.0°	- 294°																																						
092.0°	- 084°	210.0°	- 204°	327.5°	- 324°																																						
5	4006	B	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a true heading of 236°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 354°</td> <td>122.5°</td> <td>- 114°</td> <td>239.5°</td> <td>- 234°</td> </tr> <tr> <td>030.5°</td> <td>- 024°</td> <td>152.0°</td> <td>- 144°</td> <td>269.0°</td> <td>- 264°</td> </tr> <tr> <td>061.5°</td> <td>- 054°</td> <td>181.0°</td> <td>- 174°</td> <td>298.0°</td> <td>- 294°</td> </tr> <tr> <td>092.0°</td> <td>- 084°</td> <td>210.0°</td> <td>- 204°</td> <td>327.5°</td> <td>- 324°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 354°	122.5°	- 114°	239.5°	- 234°	030.5°	- 024°	152.0°	- 144°	269.0°	- 264°	061.5°	- 054°	181.0°	- 174°	298.0°	- 294°	092.0°	- 084°	210.0°	- 204°	327.5°	- 324°	1.0°W	0.5°E	1.5°E	0.0°
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 354°	122.5°	- 114°	239.5°	- 234°																																						
030.5°	- 024°	152.0°	- 144°	269.0°	- 264°																																						
061.5°	- 054°	181.0°	- 174°	298.0°	- 294°																																						
092.0°	- 084°	210.0°	- 204°	327.5°	- 324°																																						
5	4007	A	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a gyro heading of 166°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 350°</td> <td>122.5°</td> <td>- 110°</td> <td>239.5°</td> <td>- 230°</td> </tr> <tr> <td>030.5°</td> <td>- 020°</td> <td>152.0°</td> <td>- 140°</td> <td>269.0°</td> <td>- 260°</td> </tr> <tr> <td>061.5°</td> <td>- 050°</td> <td>181.0°</td> <td>- 170°</td> <td>298.0°</td> <td>- 290°</td> </tr> <tr> <td>092.0°</td> <td>- 080°</td> <td>210.0°</td> <td>- 200°</td> <td>327.5°</td> <td>- 320°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 350°	122.5°	- 110°	239.5°	- 230°	030.5°	- 020°	152.0°	- 140°	269.0°	- 260°	061.5°	- 050°	181.0°	- 170°	298.0°	- 290°	092.0°	- 080°	210.0°	- 200°	327.5°	- 320°	1.0°W	1.0°E	0.5°W	0.5°E
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 350°	122.5°	- 110°	239.5°	- 230°																																						
030.5°	- 020°	152.0°	- 140°	269.0°	- 260°																																						
061.5°	- 050°	181.0°	- 170°	298.0°	- 290°																																						
092.0°	- 080°	210.0°	- 200°	327.5°	- 320°																																						

5	4008	A	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a gyro heading of 037°.</p> <table> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 350°</td> <td>122.5°</td> <td>- 110°</td> <td>239.5°</td> <td>- 230°</td> </tr> <tr> <td>030.5°</td> <td>- 020°</td> <td>152.0°</td> <td>- 140°</td> <td>269.0°</td> <td>- 260°</td> </tr> <tr> <td>061.5°</td> <td>- 050°</td> <td>181.0°</td> <td>- 170°</td> <td>298.0°</td> <td>- 290°</td> </tr> <tr> <td>092.0°</td> <td>- 080°</td> <td>210.0°</td> <td>- 200°</td> <td>327.5°</td> <td>- 320°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 350°	122.5°	- 110°	239.5°	- 230°	030.5°	- 020°	152.0°	- 140°	269.0°	- 260°	061.5°	- 050°	181.0°	- 170°	298.0°	- 290°	092.0°	- 080°	210.0°	- 200°	327.5°	- 320°	1.0°W	1.5°W	1.5°E	2.0°E
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 350°	122.5°	- 110°	239.5°	- 230°																																						
030.5°	- 020°	152.0°	- 140°	269.0°	- 260°																																						
061.5°	- 050°	181.0°	- 170°	298.0°	- 290°																																						
092.0°	- 080°	210.0°	- 200°	327.5°	- 320°																																						
5	4009	B	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a true heading of 187°.</p> <table> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 350°</td> <td>122.5°</td> <td>- 110°</td> <td>239.5°</td> <td>- 230°</td> </tr> <tr> <td>030.5°</td> <td>- 020°</td> <td>152.0°</td> <td>- 140°</td> <td>269.0°</td> <td>- 260°</td> </tr> <tr> <td>061.5°</td> <td>- 050°</td> <td>181.0°</td> <td>- 170°</td> <td>298.0°</td> <td>- 290°</td> </tr> <tr> <td>092.0°</td> <td>- 080°</td> <td>210.0°</td> <td>- 200°</td> <td>327.5°</td> <td>- 320°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 350°	122.5°	- 110°	239.5°	- 230°	030.5°	- 020°	152.0°	- 140°	269.0°	- 260°	061.5°	- 050°	181.0°	- 170°	298.0°	- 290°	092.0°	- 080°	210.0°	- 200°	327.5°	- 320°	1.5°W	0.5°W	0.0°	1.0°E
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 350°	122.5°	- 110°	239.5°	- 230°																																						
030.5°	- 020°	152.0°	- 140°	269.0°	- 260°																																						
061.5°	- 050°	181.0°	- 170°	298.0°	- 290°																																						
092.0°	- 080°	210.0°	- 200°	327.5°	- 320°																																						
5	4010	C	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a magnetic compass heading of 104°.</p> <table> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 350°</td> <td>122.5°</td> <td>- 110°</td> <td>239.5°</td> <td>- 230°</td> </tr> <tr> <td>030.5°</td> <td>- 020°</td> <td>152.0°</td> <td>- 140°</td> <td>269.0°</td> <td>- 260°</td> </tr> <tr> <td>061.5°</td> <td>- 050°</td> <td>181.0°</td> <td>- 170°</td> <td>298.0°</td> <td>- 290°</td> </tr> <tr> <td>092.0°</td> <td>- 080°</td> <td>210.0°</td> <td>- 200°</td> <td>327.5°</td> <td>- 320°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 350°	122.5°	- 110°	239.5°	- 230°	030.5°	- 020°	152.0°	- 140°	269.0°	- 260°	061.5°	- 050°	181.0°	- 170°	298.0°	- 290°	092.0°	- 080°	210.0°	- 200°	327.5°	- 320°	1.8°E	2.6°E	2.2°W	2.7°W
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 350°	122.5°	- 110°	239.5°	- 230°																																						
030.5°	- 020°	152.0°	- 140°	269.0°	- 260°																																						
061.5°	- 050°	181.0°	- 170°	298.0°	- 290°																																						
092.0°	- 080°	210.0°	- 200°	327.5°	- 320°																																						

5	4011	D	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a magnetic compass heading of 234°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 350°</td> <td>122.5°</td> <td>- 110°</td> <td>239.5°</td> <td>- 230°</td> </tr> <tr> <td>030.5°</td> <td>- 020°</td> <td>152.0°</td> <td>- 140°</td> <td>269.0°</td> <td>- 260°</td> </tr> <tr> <td>061.5°</td> <td>- 050°</td> <td>181.0°</td> <td>- 170°</td> <td>298.0°</td> <td>- 290°</td> </tr> <tr> <td>092.0°</td> <td>- 080°</td> <td>210.0°</td> <td>- 200°</td> <td>327.5°</td> <td>- 320°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 350°	122.5°	- 110°	239.5°	- 230°	030.5°	- 020°	152.0°	- 140°	269.0°	- 260°	061.5°	- 050°	181.0°	- 170°	298.0°	- 290°	092.0°	- 080°	210.0°	- 200°	327.5°	- 320°	2.5°W	2.5°E	1.0°W	0.5°E
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 350°	122.5°	- 110°	239.5°	- 230°																																						
030.5°	- 020°	152.0°	- 140°	269.0°	- 260°																																						
061.5°	- 050°	181.0°	- 170°	298.0°	- 290°																																						
092.0°	- 080°	210.0°	- 200°	327.5°	- 320°																																						
5	4012	A	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a magnetic compass heading of 210°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 354°</td> <td>122.5°</td> <td>- 114°</td> <td>239.5°</td> <td>- 234°</td> </tr> <tr> <td>030.5°</td> <td>- 024°</td> <td>152.0°</td> <td>- 144°</td> <td>269.0°</td> <td>- 264°</td> </tr> <tr> <td>061.5°</td> <td>- 054°</td> <td>181.0°</td> <td>- 174°</td> <td>298.0°</td> <td>- 294°</td> </tr> <tr> <td>092.0°</td> <td>- 084°</td> <td>210.0°</td> <td>- 204°</td> <td>327.5°</td> <td>- 324°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 354°	122.5°	- 114°	239.5°	- 234°	030.5°	- 024°	152.0°	- 144°	269.0°	- 264°	061.5°	- 054°	181.0°	- 174°	298.0°	- 294°	092.0°	- 084°	210.0°	- 204°	327.5°	- 324°	0.0°	0.5°W	0.5°E	1.0°E
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 354°	122.5°	- 114°	239.5°	- 234°																																						
030.5°	- 024°	152.0°	- 144°	269.0°	- 264°																																						
061.5°	- 054°	181.0°	- 174°	298.0°	- 294°																																						
092.0°	- 084°	210.0°	- 204°	327.5°	- 324°																																						
5	4013	D	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a gyro heading of 039°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 354°</td> <td>122.5°</td> <td>- 114°</td> <td>239.5°</td> <td>- 234°</td> </tr> <tr> <td>030.5°</td> <td>- 024°</td> <td>152.0°</td> <td>- 144°</td> <td>269.0°</td> <td>- 264°</td> </tr> <tr> <td>061.5°</td> <td>- 054°</td> <td>181.0°</td> <td>- 174°</td> <td>298.0°</td> <td>- 294°</td> </tr> <tr> <td>092.0°</td> <td>- 084°</td> <td>210.0°</td> <td>- 204°</td> <td>327.5°</td> <td>- 324°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 354°	122.5°	- 114°	239.5°	- 234°	030.5°	- 024°	152.0°	- 144°	269.0°	- 264°	061.5°	- 054°	181.0°	- 174°	298.0°	- 294°	092.0°	- 084°	210.0°	- 204°	327.5°	- 324°	0.8°E	0.0°	0.5°W	1.0°W
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 354°	122.5°	- 114°	239.5°	- 234°																																						
030.5°	- 024°	152.0°	- 144°	269.0°	- 264°																																						
061.5°	- 054°	181.0°	- 174°	298.0°	- 294°																																						
092.0°	- 084°	210.0°	- 204°	327.5°	- 324°																																						

5	4014	B	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a true heading of 157°.</p> <table border="0"> <thead> <tr> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> <th colspan="2">HEADING</th> </tr> <tr> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> <th>PSC</th> <th>PGC</th> </tr> </thead> <tbody> <tr> <td>358.5°</td> <td>- 354°</td> <td>122.5°</td> <td>- 114°</td> <td>239.5°</td> <td>- 234°</td> </tr> <tr> <td>030.5°</td> <td>- 024°</td> <td>152.0°</td> <td>- 144°</td> <td>269.0°</td> <td>- 264°</td> </tr> <tr> <td>061.5°</td> <td>- 054°</td> <td>181.0°</td> <td>- 174°</td> <td>298.0°</td> <td>- 294°</td> </tr> <tr> <td>092.0°</td> <td>- 084°</td> <td>210.0°</td> <td>- 204°</td> <td>327.5°</td> <td>- 324°</td> </tr> </tbody> </table>	HEADING		HEADING		HEADING		PSC	PGC	PSC	PGC	PSC	PGC	358.5°	- 354°	122.5°	- 114°	239.5°	- 234°	030.5°	- 024°	152.0°	- 144°	269.0°	- 264°	061.5°	- 054°	181.0°	- 174°	298.0°	- 294°	092.0°	- 084°	210.0°	- 204°	327.5°	- 324°	2.0°W	1.5°W	1.0°W	0.0°
HEADING		HEADING		HEADING																																							
PSC	PGC	PSC	PGC	PSC	PGC																																						
358.5°	- 354°	122.5°	- 114°	239.5°	- 234°																																						
030.5°	- 024°	152.0°	- 144°	269.0°	- 264°																																						
061.5°	- 054°	181.0°	- 174°	298.0°	- 294°																																						
092.0°	- 084°	210.0°	- 204°	327.5°	- 324°																																						
5	15915	A	<p>At 0925, you plot the following loran fix:</p> <p>9960-W-14931.5 9960-X-26418.2 9960-Y-44006.5</p> <p>If you correct for a current setting 215°T at 0.5 knot, what course will you steer from the 0925 position to arrive at a position 0.5 mile south of Long Sand Shoal West End Horn Buoy "W"?</p>	089°T	093°T	096°T	102°T																																				
5	15916	C	<p>If you correct for the current in the preceding question (215°T at 0.5 knot) and maintain an engine speed of 7.5 knots, what is your ETA 0.5 mile south of buoy "W"?</p>	1016	1021	1026	1030																																				
5	15917	D	<p>At what approximate distance would you expect Bartlett Reef Light to break the horizon, if the visibility is 27 nautical miles?</p>	5.9 nm	6.9 nm	12.0 nm	12.8 nm																																				
5	15918	C	<p>At 1038, you are 0.4 mile south of Long Sand Shoal Buoy "8A" on course 090°T when visibility is reduced to 1 mile in rain and haze. You intend to stay on 090°T until your Loran shows a reading that you can safely follow to the approaches of New London. Which of the following Loran readings will you look for?</p>	9960-W-14720	9960-X-26290	9960-Y-43980	9960-W-14810																																				

5	15919	B	At 1200, your position is 2.0 miles southwest of Bartlett Reef Light. Your heading is 075°T. Visibility is less than 0.2 mile in fog and rain. Which of the following signals is most likely to be from another vessel?	Whistle from 125° relative	Whistle from 075° relative	Bell from 350° relative	Horn from 330° relative	
5	15920	B	What chart should you use after you enter New London Harbor?	13211	13213	13214	13272	
5	15938	C	At 1910 you obtain the following bearings:  Bartlett Reef Light 268°T Race Rock Light 147°T Little Gull Island Light 198°T  Which of the following is your position at 1910?	LAT 41°17.4'N, LONG 72°05.6'W	LAT 41°17.0'N, LONG 72°07.1'W	LAT 41°16.6'N, LONG 72°04.6'W	LAT 41°16.2'N, LONG 72°06.4'W	
5	15939	B	From your 1910 position, you set a course of 162°T at a speed of 14 knots. What will serve as a definite warning that you are being set towards Race Rock Light?	Decreasing bearings to Race Rock Light	Decreasing loran readings on loran rate 9960-W	Increasing soundings	Decreasing radar ranges to Race Point	
5	15940	C	At 1934 Little Gull Island Light bears 277°T and Race Rock Light bears 000°T. Which were the set and drift between 1910 and 1934?	321°T, 2.2 knots	321°T, 0.9 knots	331°T, 2.2 knots	331°T, 0.9 knots	
5	15941	D	From your 1934 position, you change course to pass 2.0 miles due north of Block Island Sound South Entrance Obstruction Lighted "BIS" Buoy. If you adjust your course only (while maintaining an engine speed of 14 knots) for a set and drift of 230°T at 3.5 knots, what is your ETA and distance off when abeam of Shagwong Reef Lighted Bell Buoy "7SR"?	2003, 4.2 miles	2009, 4.2 miles	2003, 3.7 miles	2009, 3.7 miles	
5	15942	A	At 1959 Watch Hill Point Light bears 030°T, Montauk Point Light bears 146°T, and Little Gull Light bears 283°T. What is the approximate fathometer reading?	51 feet	73 feet	95 feet	111 feet	
5	15943	D	At 2038 Block Island North Light bears 065°T, Montauk Point Light bears 216°T, and a reading of 25959 is obtained on loran rate 9960-X. Which statement is TRUE?	Your speed made good between your 1959 fix and 2038 fix is 11.0 knots.	Your course made good between your 1959 fix and 2038 fix is 102°T.	At your 2038 fix, your vessel is governed by the Inland Rules of the Road.	Block Island Sound South Entrance Obstruction Lighted "BIS" Buoy is located 3.6 miles off your starboard bow.	

5	15944	B	From your 2038 position you change course to 104°T and increase engine speed to 18 knots. If you make good this course and speed, at what time will Southwest Ledge Lighted Bell Buoy "2" bear 157°T?	2047	2052	2056	2101
5	15945	B	At 2107 Southeast Point Light bears 062°T, and at 2112 this light bears 038°T. What is your distance off Southeast Point Light at 2112? (assume no set and drift)	2.1 miles	2.5 miles	2.9 miles	3.3 miles
5	15946	C	At 2132 you sight Block Island Southeast Point Light in line with the Aerobeacon (rotating white and green) bearing 308.5°pgc. The helmsman reports he was heading 106°pgc and 119°psc. What is the deviation on that heading?	4°W	2°W	2°E	4°E
5	15956	C	The National Weather Service provides 24-hour weather broadcasts to vessels transiting the Chesapeake Bay Bridge Tunnel. The broadcasts may be found on _____.	202.35 MHz	181.15 MHz	162.55 MHz	147.45 MHz
5	15957	B	At 1752, your position is LAT 37°04.3'N, LONG 76°06.4'W. On an ebb current you should expect to be set to the _____.	north northeast	south southeast	south southwest	north northwest
5	15958	C	Your 1752 position is _____.	less than 0.2 mile to the west of York Spit Channel	less than 0.2 mile to the east of York Spit Channel	more than 0.2 mile to the west of York Spit Channel	more than 0.2 mile to the east of York Spit Channel
5	15959	C	What is the average velocity of the maximum ebb current in the channel west of Middle Ground?	0.8 knot	1.0 knot	1.3 knots	1.6 knots
5	15960	A	From your 1752 position, you steer 313°pgc at 9 knots. At 1805, you obtain the following visual bearings: Old Pt. Comfort Light - 238°pgc. Chesapeake Bay Tunnel North Light - 136°pgc. What are the latitude and longitude of your 1805 position?	LAT 37°05.9'N, LONG 76°08.0'W	LAT 37°06.0'N, LONG 76°08.4'W	LAT 37°05.0'N, LONG 76°08.7'W	LAT 37°06.1'N, LONG 76°08.1'W
5	15961	D	At 1810, a red buoy bears 010° relative. This buoy marks _____.	the side of York Spit Channel	the visibility limit of the red sector of Cape Henry Light	a submerged obstruction in York Spit Channel	the York River Entrance Channel
5	15962	D	Based on dead reckoning, at approximately 1817 you would expect to _____.	enter a traffic separation zone	depart a restricted area	cross a submerged pipeline	depart a regulated area

5	15963	B	At 1845, you obtain a loran fix using the following information: 9960-X-27251.0 9960-Y-41432.0 9960-Z-58537.9 Your latitude is _____.	37°11.4'N	37°11.2'N	37°10.9'N	37°10.7'N	
5	15964	C	Your 1900 position is LAT 37°12.9'N, LONG 76°13.5'W. You change course to 323°pgc. What is the course per standard magnetic compass?	309°psc	311°psc	329°psc	331°psc	
5	15965	B	If the visibility is 5 miles, what is the luminous range of New Point Comfort Spit Light "4"?	0.5 mile	3.4 miles	4.8 miles	5.0 miles	
5	15966	B	The yellow buoys on either side of your vessel that lead to Mobjack Bay mark _____.	the limits of the dredged channel	fish trap areas	underwater cable areas	ferry routes	
5	15967	A	At 1925, you take a fix using the following radar ranges: York Spit Light - 3.4 miles away; New Point Comfort Spit Light "2" - 2.1 miles away; York Spit Swash Channel Light "3" - 2.7 miles away. Your longitude is _____.	76°16.6'W	76°16.8'W	76°17.0'W	76°17.2'W	
5	15968	D	What was the speed made good from 1900 to 1925?	8.5 knots	8.7 knots	8.8 knots	9.1 knots	
5	15969	C	What is the height above water of New Point Comfort Spit Light "2"?	6 feet (1.8 meters)	15 feet (4.6 meters)	18 feet (5.5 meters)	24 feet (7.3 meters)	
5	422	D	Which statement regarding the wreck 0.2 mile south of buoys "1" and "2" at the entrance to New London Harbor is TRUE?	The wreck presents a danger to all vessels with drafts in excess of 30 feet (9.1 meters).	The wreck is visible above the sounding datum between the months of March and June.	The wreck was cleared by wire drag in 1982 and will not appear on future charts.	The wreck is shown on the chart, but its actual existence is doubtful.	
5	423	C	At 0530, your position is LAT 41°12.6'N, LONG 72°08.5'W. What is the color of New London Harbor Light?	Green	White	Red	Alternating white and green	
5	424	C	From your 0530 position, you set a course of 271°psc with an engine speed of 9 knots. At 0645, Cornfield Safe-Water Buoy is abeam to starboard. What speed have you averaged since 0530?	9.5 knots	9.0 knots	8.6 knots	7.5 knots	

5	425	D	At 0730, your position is LAT 41°10.5'N, LONG 72°32.2'W. From this position you steer course 286°psc with an engine speed of 9.0 knots. What is the approximate depth of water under your keel?	67 feet (20.3 meters)	62 feet (18.8 meters)	57 feet (17.3 meters)	52 feet (15.8 meters)
5	426	A	The broken magenta line which runs parallel to the shore between Roanoke Point and Mattituck Inlet marks a _____.	fish trap area	pipeline	demarcation line	cable area
5	427	A	Assuming no current, at what time can you expect to be abeam of Townshend Ledge Lighted Buoy?	0910	0905	0902	0859
5	428	C	At 0730, visibility is 5.5 miles. At what time will you lose sight of Horton Point Light?	It is not visible at 0730	0733	0751	0812
5	429	C	At 0820, you take the following Loran-C readings:  9960-W-14978.0 9960-Y-43993.5 9960-X-26464.1  What are the set and drift since 0730?	Set 052°T, drift 1.1 knots	Set 052°T, drift 1.3 knots	Set 232°T, drift 1.3 knot	Set 232°T, drift 1.1 knots
5	430	B	At 0820, you change course to 301°psc and reduce speed to 7.5 knots. At 0900, you take the following visual bearings:  Branford Reef Light       023°psc New Haven Light         293°psc Tweed Airport Aero beacon 332°psc  Your 0900 position is _____.	LAT 41°11.9'N, LONG 72°50.6'W	LAT 41°12.1'N, LONG 72°48.6'W	LAT 41°12.3'N, LONG 72°47.7'W	LAT 41°12.5'N, LONG 72°44.3'W
5	431	D	At 0900, the current is flooding in a direction of 350°T at 1.2 knots. If your engines are turning RPMs for 9 knots, which course should you steer per standard magnetic compass to make good a course of 297° true?	319°psc	317°psc	311°psc	302°psc
5	432	A	Which chart would you use for more detailed information on New Haven Harbor?	12371	12370	12372	12373
5	433	C	What true course and speed did you make good between 0730 and 0900?	271°T, 8.9 knots	273°T, 8.7 knots	277°T, 8.4 knots	284°T, 7.5 knots

5	434	D	As you enter the New Haven Outer Channel, you sight the outer range markers in line directly ahead. Your heading at this time is 347°psc. What is your compass deviation by observation?	4.5°West	3.5°West	3.0°East	0.5°East
5	435	B	Which course should you change to per standard magnetic compass as you pass SW Ledge Light to remain in the channel?	026°psc	022°psc	014°psc	007°psc
5	436	B	At 0227, you take the following radar ranges and bearings: Bartlett Reef Light 359°T at 2.4 miles, Race Rock Light 083°T at 4.1 miles. What is your 0227 position?	LAT 41°14.5'N, LONG 72°08.0'W	LAT 41°14.1'N, LONG 72°08.2'W	LAT 41°14.0'N, LONG 72°08.5'W	LAT 41°14.3'N, LONG 72°08.5'W
5	437	B	At 0227, you are on course 087°T at 10 knots. What course per standard magnetic compass should you steer to make good your true course?	109°psc	105°psc	102°psc	099°psc
5	438	C	You estimate that you are making 9.3 knots over the ground. At what time will you enter waters governed by the COLREGS?	0258	0255	0251	0247
5	439	C	At 0337, fog closes in and you anchor under the following radar ranges and bearing:  South tip of Watch Hill Point 3.0 miles East point of Fishers Island 1.4 miles Latimer Reef Light 331°T  What is the approximate depth of water at your anchorage?	135 feet (40.9 meters)	120 feet (36.4 meters)	100 feet (30.3 meters)	83 feet (25.2 meters)
5	440	A	By 1015, visibility has increased to 5.0 miles and you can see Fishers Island. Fishers Island has _____.	sparsely wooded hills and is fringed with shoals to the south	sheer cliffs rising from the sea to a high, flat plateau	barren, rocky hills with prominent sandy beaches	low and sandy beaches with salt ponds and marsh grass
5	441	A	You get underway at 1030. The wind is out of the SSE and you estimate 3° leeway. What course should you steer per gyrocompass to make good a desired course of 075°T?	080°pgc	078°pgc	076°pgc	074°pgc
5	442	D	Shortly after getting underway, you sight Stonington Outer Breakwater Light in line with Stonington Inner Breakwater Light bearing 000° per gyrocompass. Which statement is TRUE?	The deviation is 2°W	The variation is 2°E.	The compass error is 16°W.	The gyro error is 2.5°W

5	443	B	At 1104, Watch Hill Point Light is in line with Stonington Outer Breakwater Light, the range to the south tip of Watch Hill Point is 2.6 miles and the range to the beach is 1.9 miles. You are steering to make good 075°T, speed 10.0 knots. At 1110, you change course to head for a position of LAT 41°05.0'N, LONG 71°50.0'W. What is the true course?	193°	190°	187°	185°
5	444	B	At 1110, you increase speed to 12 knots. What is your ETA at the new position?	1220	1215	1208	1157
5	445	C	You can follow what loran reading between your two positions?	There is no loran reading to follow.	9960-Y-43958	9960-X-25982	9960-W-14655
5	446	D	At 1345, you depart from a position 1 mile due east of Montauk Point Light and set course for Block Island Southeast Light at 9 knots. At 1430, you take the following loran readings:  9960-W-14600.8 9960-Y-43866.3 9960-X-25912.3  What was the current encountered since 1345?	Set 015°, drift 0.5 knot	Set 195°, drift 0.7 knot	Set 015°, drift 0.7 knot	Set 195°, drift 0.5 knot
5	447	D	You are encountering heavy weather. What action should you take based on your 1430 fix?	Continue on the same course but increase speed.	Continue on the same course at the same speed.	Slow to 8.3 knots to compensate for the current.	Alter course to the right, to pass well clear of Southwest Ledge
5	448	C	At 2100, you set course of 000°T, speed 10 knots from LAT 41°07.0'N, LONG 71°30.0'W. Visibility is 5.5 n.m. What is the earliest time you can expect to sight Point Judith Light? (Use charted range of 20 miles as nominal range.)	The light is visible at 2100.	2106	2111	2123
5	449	B	You estimate the current to be 160°T at 1.2 knots. What should your course and speed be in order to make good 000°T at 10 knots?	358°T at 09.8 knots	358°T at 11.1 knots	002°T at 11.2 knots	002°T at 09.9 knots
5	450	A	If you want to put into Point Judith Harbor of Refuge, what chart should you use?	13219	13217	13209	13205
5	451	B	Determine the great circle distance and initial course from LAT 27°51.0'N, LONG 71°41.0'W to LAT 49°45.0'N, LONG 06°14.0'W.	3196 miles, 313.1°T	3214 miles, 046.9°T	3219 miles, 042.5°T	3231 miles, 041.4°T

5	452	B	Determine the great circle distance and initial course from LAT 35°17.6'N, LONG 144°23.0'E to LAT 47°36.0'N, LONG 124°22.0'W.	3946 miles, 312°T	3931 miles, 048°T	3881 miles, 042°T	3718 miles, 318°T
5	453	D	Determine the great circle distance and initial course from LAT 08°36.0'N, LONG 126°17.0'E to LAT 02°12.0'S, LONG 81°53.0'W.	9015 miles, 067°T	9076 miles, 067°T	9105 miles, 079°T	9076 miles, 079°T
5	454	D	Determine the great circle distance and initial course from LAT 26°00.0'S, LONG 56°00.0'W to LAT 34°00.0'S, LONG 18°15.0'E.	3705 miles, 153°T	3841 miles, 068°T	3849 miles, 248°T	3805 miles, 117°T
5	455	A	Determine the great circle distance and initial course from LAT 24°52.0'N, LONG 78°27.0'W to LAT 47°19.0'N, LONG 06°42.0'W.	3593 miles, 048.1°T	3457 miles, 053.3°T	3389 miles, 042.4°T	3367 miles, 045.0°T
5	456	B	At 0630, you pass Buoy "PI" close abeam on the starboard side. You are steering 078°T and are headed directly toward Race Rock Light. At 0654, Little Gull Island Light is bearing 207°T and Race Rock Light is bearing 072°T. What is your 0654 position?	LAT 41°13.6'N, LONG 72°03.3'W	LAT 41°14.0'N, LONG 72°05.3'W	LAT 41°14.7'N, LONG 72°06.8'W	LAT 41°19.0'N, LONG 72°05.2'W
5	457	B	Determine the great circle distance and initial course from LAT 31°57.0'S, LONG 115°52.0'E to LAT 24°47.0'N, LONG 66°59.0'E.	4516 miles, 134.5°T	4407 miles, 314.5°T	4402 miles, 319.5°T	4378 miles, 336.8°T
5	458	D	Determine the great circle distance and initial course from LAT 38°42.0'N, LONG 09°10.5'W to LAT 32°05.0'N, LONG 81°05.0'W.	3402.0 miles, 072.5°T	3412.6 miles, 085.8°T	3432.0 miles, 278.3°T	3449.4 miles, 287.2°T
5	459	D	Determine the great circle distance and initial course from LAT 25°47.0'N, LONG 79°59.5'W to LAT 38°42.0'N, LONG 09°10.5'W.	3341.0 miles, 063°T	3347.0 miles, 063°T	3427.8 miles, 061°T	3588.6 miles, 059°T
5	460	B	Determine the great circle distance and initial course from LAT 35°27.0'N, LONG 140°20.5'E to LAT 47°51.0'N, LONG 122°51.0'W.	4087 miles, 036°T	4115 miles, 045°T	4122 miles, 076°T	4136 miles, 076°T
5	462	A	Determine the great circle distance and initial course from LAT 12°45.2'N, LONG 124°20.1'E to LAT 33°48.8'N, LONG 120°07.0'W.	6185.9 miles, 050.3°T	6231.3 miles, 309.7°T	6248.0 miles, 048.3°T	6382.0 miles, 311.7°T
5	463	D	Determine the great circle distance and initial course from LAT 37°47.5'N, LONG 122°27.8'W to LAT 33°51.7'S, LONG 151°12.7'E.	6324.2 miles, 310.3°T	6345.3 miles, 301.7°T	6398.0 miles, 298.3°T	6445.2 miles, 240.3°T
5	464	D	Determine the great circle distance and initial course from LAT 33°53.3'S, LONG 18°23.1'E to LAT 40°27.0'N, LONG 73°49.4'W.	6648.0 miles, 298.7°T	6743.5 miles, 302.7°T	6750.8 miles, 235.5°T	6763.0 miles, 304.5°T

5	465	C	Determine the great circle distance and initial course from LAT 34°51.0'N, LONG 115°01.2'E to LAT 10°16.0'S, LONG 51°42.6'E.	4436 miles, 245.3°T	4598 miles, 245.6°T	4493 miles, 245.6°T	4582 miles, 245.6°T
5	466	C	Determine the great circle distance and initial course from LAT 25°50.0'N, LONG 77°00.0'W to LAT 35°56.0'N, LONG 06°15.0'W.	3470 miles, 298°T	3518 miles, 028°T	3616 miles, 062°T	3718 miles, 118°T
5	467	C	Determine the great circle initial course from LAT 29°46.0'S, LONG 30°26.0'E to LAT 31°52.0'S, LONG 115°22.0'E.	074°T	113°T	117°T	121°T
5	468	C	Determine the great circle initial course from LAT 07°05.0'N, LONG 81°45.0'W to LAT 21°15.0'N, LONG 157°40.0'W.	128°T	217°T	290°T	326°T
5	469	A	Determine the great circle initial course from LAT 37°12.6'S, LONG 73°58.0'W to LAT 10°33.0'S, LONG 142°08.0'E.	223°T	253°T	287°T	317°T
5	470	B	Determine the great circle distance and initial course from LAT 35°08.0'S, LONG 19°26.0'E to LAT 33°16.0'S, LONG 115°36.0'E.	4457 miles, 126°T	4559 miles, 121°T	4682 miles, 059°T	4688 miles, 126°T
5	471	B	The great circle distance from LAT 35°57.2'N, LONG 05°45.7'W to LAT 24°25.3'N, LONG 83°02.6'W is 3966.5 miles and the initial course is 283.7°T. The latitude of the vertex is 38°09.4'N. What is the longitude of the vertex?	28°02.6'W	28°18.2'W	28°46.3'W	28°54.7'W
5	472	D	The great circle distance from LAT 38°17.0'N, LONG 123°16.0'W to LAT 35°01.0'N, LONG 142°21.0'E is 4330 miles and the initial course is 300.9°T. The latitude of the vertex is 47°40.5'N. What is the longitude of the vertex?	173°04.6'E	167°18.0'E	173°04.6'W	167°18.5'W
5	473	B	The great circle distance from LAT 08°50.0'N, LONG 80°21.0'W to LAT 22°36.0'N, LONG 128°16.0'E is 7801 miles and the initial course is 318°45' T. The latitude of the vertex is 49°20.6'N. What is the longitude of the vertex?	156°43'W	162°41'W	159°32'W	161°18'W
5	474	B	You are on a great circle track departing from LAT 25°50.0'N, LONG 77°00.0'W and your initial course is 061.7°T. The position of the vertex is LAT 37°35.6'N, LONG 25°57.8'W.  What is the distance along the great circle track between the point of departure and the vertex?	2735.1 miles	2664.9 miles	2583.2 miles	2420.0 miles

5	475	B	The great circle distance from LAT 35°08.0'S, LONG 19°26.0'E to LAT 33°16.0'S, LONG 115°36.0'E is 4559 miles and the initial course is 121°T. Determine the latitude of the vertex.	44°29.1'S	45°30.9'S	46°18.2'S	43°41.8'S
5	476	B	The great circle distance from LAT 35°08.0'S, LONG 19°26.0'E to LAT 33°16.0'S, LONG 115°36.0'E is 4559 miles and the initial course is 121°T. Determine the longitude of the vertex.	26°50.9'E	65°45.9'E	69°19.1'E	72°18.3'E
5	477	A	The great circle distance from LAT 08°50.0'N, LONG 80°21.0'W to LAT 12°36.0'N, LONG 128°16.0'E is 8664 miles, and the initial course is 306.6°T. Determine the latitude of the vertex.	37°30.2'N	37°39.6'N	37°48.2'N	37°53.6'N
5	478	D	The great circle distance from LAT 38°17'N, LONG 123°16'W to LAT 35°01'N, LONG 142°21'E is 4330 miles, and the initial course is 300.9°T. Determine the latitude of the vertex.	46°54.8'N	47°24.7'N	47°35.2'N	47°40.5'N
5	479	C	The great circle distance from LAT 24°25.3'N, LONG 83°02.6'W to LAT 35°57.2'N, LONG 5°45.7'W is 3966.5 miles. Determine the latitude of the vertex.	38°46.2'N	38°16.4'N	38°09.4'N	37°57.3'N
5	480	A	The great circle distance from LAT 25°50'N, LONG 77°00'W to LAT 35°56'N, LONG 06°15'W is 3616 miles, and the initial course is 061.7°T. The position of the vertex is LAT 37°34.9'N, LONG 25°59.0'W. Determine the latitude intersecting the great circle track 600 miles west of the vertex, along the great circle track.	36°54.9'N	36°50.2'N	36°45.9'N	36°36.8'N
5	481	B	The great circle distance from LAT 25°50'N, LONG 77°00'W to LAT 35°56'N, LONG 06°15'W is 3616 miles, and the initial course is 061.7°T. Determine the latitude of the vertex.	37°32.2'N	37°34.9'N	37°41.6'N	37°45.2'N
5	482	C	The great circle distance from LAT 25°50'N, LONG 77°00'W to LAT 35°56'N, LONG 06°15'W is 3616 miles, and the initial course is 061.7°T. Determine the longitude of the vertex, given the latitude of the vertex as 37°34.9'N.	25°49.8'W	25°53.2'W	25°59.0'W	26°03.4'W

5	483	B	The great circle distance from LAT 25°50'N, LONG 77°00'W to LAT 35°56'N, LONG 06°15'W is 3616 miles, and the initial course is 061.7°T. The position of the vertex is LAT 37°34.9'N, LONG 25°59.0'W. The difference of longitude from the vertex to a point (X) on the great circle track is 10°W. Determine the latitude which intersects the great circle at point (X).	37°02.5'N	37°09.5'N	37°15.6'N	37°21.2'N
5	484	C	You are on a great circle track departing from position LAT 25°50'N, LONG 77°00'W. The position of the vertex is LAT 37°35.6'N, LONG 25°57.8'W. The distance along the great circle track from the vertex to a point (X) is 600 miles westward. Determine the position of point (X) on the great circle track.	LAT 36°47.5'N, LONG 38°21.8'W	LAT 36°50.4'N, LONG 38°25.6'W	LAT 36°55.6'N, LONG 38°30.0'W	LAT 37°02.3'N, LONG 38°34.4'W
5	485	C	Determine the great circle distance and initial course from LAT 08°53.0'N, LONG 79°31.0'W to LAT 33°51.5'S, LONG 151°13.0'E.	7809 miles, 247.0°T	7763 miles, 247.0°T	7635 miles, 233.9°T	7618 miles, 230.3°T
5	486	B	What is your speed from your 0630 position, with Buoy "PI" close abeam, to your 0654 position?	11.4 knots	10.5 knots	9.3 knots	8.2 knots
5	487	A	At 0700, your gyro alarm sounds. What course should you steer by the standard magnetic compass in order to maintain your original heading of 078°T?	095°psc	090°psc	080°psc	062°psc
5	488	A	At 0705, with your gyro again functioning properly, you change course to 096°T. At this time Race Rock Light is bearing 000°T at 0.35 mile. You are now governed by which Navigation Rules?	International Rules	Local Pilot Rules	Inland Rules	Coastal Fishery Rules
5	489	C	At 0728, Race Rock Light is bearing 282°T at 3.8 miles, and the closest point on Fishers Island is at a radar range of 2.1 miles. What speed have you been making since you changed course at 0705?	11.4 knots	10.6 knots	9.9 knots	9.2 knots
5	490	A	At 0728, you change course to 080°T. When steady on course, the standard magnetic compass reads 097°. Which statement is TRUE?	The magnetic compass error is 17°W.	The magnetic heading is 090°.	The deviation is 1.0°E.	The gyro course is 083°pgc.

5	491	B	At 0748, you take the following Loran-C readings:  9960-W-14651.0 9960-X-26034.8 9960-Y-43943.8  What is the approximate depth of water at this position?	104 feet	130 feet	175 feet	325 feet
5	492	B	At 0748, you change course to 160°T. What loran reading can you follow to remain on this course?	9960-W-14660.0	9960-W-14651.0	9960-Y-43943.8	9960-Y-43852.0
5	493	C	At 0815, Montauk Pt. Light House is bearing 167°T, Shagwong Pt. has a radar range of 4.5 miles, and Cerberus Shoal "9" Buoy is bearing 284°T. If the engine is making turns for 10 knots, what was the set and drift of the current since 0748?	Set 065°T, drift 1.1 knots	Set 065°T, drift 2.4 knots	Set 245°T, drift 2.4 knots	Set 245°T, drift 1.1 knots
5	494	D	What action should you take to compensate for the above current?	Continue on the same course and speed.	Alter your course to the right.	Slow to 8.5 knots.	Alter your course to the left.
5	495	C	At 0815, visibility is excellent and you can see Montauk Point. Montauk Point is _____.	low and rocky with scattered small pine trees	a low lying wetland	a high sandy bluff	a flat wooded plain
5	496	A	At 0815, you change course to 079°T and head for the entrance of Great Salt Pond on Block Island. To compensate for a northerly wind, you estimate a 5° leeway is necessary. What course should you steer per gyrocompass to make good 079°T?	071°pgc	074°pgc	076°pgc	079°pgc
5	497	D	At 0845, Montauk Pt. Light is bearing 205°T at a radar distance of 6.6 miles. What is your speed made good from your 0815 position?	10.5 knots	10.0 knots	9.2 knots	8.4 knots
5	498	D	As you head toward Great Salt Pond, visibility is unlimited. At what time will you lose sight of Montauk Pt. Light?	0905	0928	0950	It will remain visible to Great Salt Pond.
5	499	D	Which chart should you use to enter Great Salt Pond?	13205	13207	13214	13217

5	500	A	Your position is LAT 40°59.0'N, LONG 73°06.2'W. What is the course per standard magnetic compass to New Haven Harbor Lighted Whistle Buoy "NH"?	052°	049°	046°	035°
5	501	C	You depart from the position in the previous question at 2114 and make good 12 knots on a course of 040°T. At what time will you sight New Haven Light if the visibility is 11 miles?	The light is visible at 2114.	2152	2159	2206
5	502	B	At 2142, you take the following bearings:  Stratford Point Light                    331°T Stratford Shoal Middle Ground Light 280°T Old Field Point Light                    223°T  What is your 2142 position?	LAT 41°02.7'N, LONG 73°01.2'W	LAT 41°03.0'N, LONG 73°01.7'W	LAT 41°03.1'N, LONG 73°01.3'W	LAT 41°03.3'N, LONG 73°01.9'W
5	503	A	What was the speed made good between 2114 and 2142?	11.4 knots	11.7 knots	12.0 knots	12.3 knots
5	504	D	At 2142, you change course to make good 030°T and increase speed to 14 knots. You rendezvous with another vessel and receive fresh supplies while off New Haven Harbor lighted whistle buoy "NH". What is the light characteristic of this buoy?	..	..	..	..
5	505	B	At 0109 you get underway, and at 0112 you take the following Loran-C readings:  9960-W-15026.9 9960-X-26536.9 9960-Y-44015.7  What is your 0112 position?	LAT 41°11.0'N, LONG 72°51.0'W	LAT 41°11.4'N, LONG 72°51.3'W	LAT 41°11.6'N, LONG 72°51.6'W	LAT 41°11.8'N, LONG 72°51.8'W
5	506	D	At 0112, what is the approximate depth under the keel?	57 feet (17.3 meters)	51 feet (15.5 meters)	47 feet (14.2 meters)	38 feet (11.5 meters)
5	507	C	At 0112, you are on course 124°T and turning for 12.0 knots. What course will you make good if the current is 255°T at 1.2 knots?	118°	120°	129°	132°
5	508	B	Branford Reef is _____.	a hard sand shoal marked with a light	completely submerged at all stages of the tide	surrounded by rocks awash at low water spring tides	a small, low, sandy islet surrounded by shoal water

5	509	B	At 0112, the radar range to Branford Reef Light is 2.9 miles. At 0125, the range is 3.6 miles. What is the position of your 0125 running fix if you are steering 124°T at 12 knots?	LAT 41°09.3'N, LONG 72°48.7'W	LAT 41°09.7'N, LONG 72°48.1'W	LAT 41°09.8'N, LONG 72°47.2'W	LAT 41°10.2'N, LONG 72°47.7'W	
5	510	B	You observe the star Deneb at a sextant altitude (hs) of 48°34.8' on 16 December. The index error is 4.0' off the arc. The height of eye is 58 feet. What is the observed altitude (Ho)?	48°02.9'	48°30.5'	48°31.4'	48°46.5'	
5	511	C	At 0130, your position is LAT 41°09.3'N, LONG 72°46.9'W when you change course to 086°T. If you make good 086°T, what is the closest point of approach to Twenty-Eight Foot Shoal Lighted Buoy?	1.2 mile	1.1 mile	0.9 miles	0.7 miles	
5	512	A	At 0200, you take the following bearings:  Falkner Island Light 004.5°T Kelsey Pt. Breakwater Lt. 054.0°T Horton Point Light 115.0°T  What were the set and drift from 0130?	260° at 1.0 knot	080° at 0.5 knot	260° at 0.5 knot	There is no current.	
5	513	C	What is the distance from your 0200 position to the point where Twenty-Eight Foot Shoal lighted buoy is abeam to starboard?	7.3 miles	7.1 miles	6.9 miles	6.6 miles	
5	514	A	The shoreline along Rocky Point should give a good radar return because _____.	the shore is bluff and rocky	of offshore exposed rocks	submerged reefs cause prominent breakers	the lookout tower is marked with radar reflectors	
5	515	A	You depart LAT 50°06.0'N, LONG 153°06.0'E and steam 879 miles on course 090°. What is the LONG of arrival?	175°56.0'E	177°24.0'E	178°36.0'W	175°04.0'W	
5	516	D	You sight Bartlett Reef Light in line with New London Harbor Light bearing 043°pgc. You are heading 088°pgc and 098.5° per standard magnetic compass at the time of the observation. Which statement is TRUE?	The true heading at the observation was 090°.	The gyro error is 2°E.	The magnetic compass error is 9.5°W.	The deviation is 1.5°E by observation.	



5	527	D	You depart LAT 25°54'N, LONG 9°38'E and steam 592 miles on course 270°. What is the longitude of arrival?	1°20'E	0°40'E	0°40'W	1°20'W
5	528	A	You depart LAT 38°12'S, LONG 12°06'W and steam 1543 miles on course 270°. What is the Longitude of arrival?	44°49'W	45°12'W	45°37'W	45°42'W
5	529	C	You depart LAT 51°48.0'S, LONG 178°35.0'W and steam 179 miles on course 270°. What is the longitude of arrival?	173°47'W	174°27'E	176°36'E	179°52'W
5	530	D	You observe the planet Jupiter at a sextant altitude (hs) of 66°27.6' on 26 May . The index error is 5.2' on the arc. The height of eye is 52 feet. What is the observed altitude (Ho)?	65°39.5'	65°32.8'	66°27.2'	66°15.0'
5	531	B	You depart LAT 15°48'N, LONG 174°06'E and steam 905 miles on course 090°. What is the LONG of arrival?	165°41'W	170°13'W	172°47'W	179°06'E
5	532	D	You depart LAT 26°03'S, LONG 10°28'E, for LAT 26°03'S, LONG 01°16'W. What are the course and distance by parallel sailing?	090°T, 547.2 miles	090°T, 632.5 miles	270°T, 547.2 miles	270°T, 632.5 miles
5	533	C	You depart LAT 38°14'N, LONG 12°42'W, for LAT 38°14'N, LONG 46°09'W. What are the course and distance by parallel sailing?	090°T, 1576.5 miles	090°T, 2879.0 miles	270°T, 1576.5 miles	270°T, 2868.5 miles
5	534	B	You depart LAT 52°01'N, LONG 176°09'E, for LAT 52°01'N, LONG 178°46'W. What are the course and distance by parallel sailing?	090°T, 95 miles	090°T, 188 miles	270°T, 95 miles	270°T, 188 miles
5	535	A	You depart LAT 49°38'N, LONG 152°49'E, for LAT 49°38'N, LONG 176°12'E. What are the course and distance by parallel sailing?	090°T, 909 miles	090°T, 1204 miles	270°T, 909 miles	270°T, 1204 miles
5	536	D	Determine the distance from LAT 63°54.0'N, LONG 04°52.0'E to LAT 63°54.0'N, LONG 18°24.0'W by parallel sailing.	608.6 miles	610.9 miles	612.3 miles	614.2 miles
5	537	C	Determine the distance from LAT 19°54.0'N, LONG 166°36.0'E to LAT 19°54.0'N, LONG 157°54.0'W. by parallel sailing.	2204.6 miles	2006.9 miles	2002.8 miles	1990.6 miles
5	538	B	Determine the distance from LAT 23°24'S, LONG 13°54'E to LAT 23°24'S, LONG 42°48'W. by parallel sailing.	3119.3 miles	3122.2 miles	3124.5 miles	3126.6 miles
5	539	C	Determine the distance from LAT 59°12'N, LONG 14°00'W to LAT 59°12'N, LONG 03°20'W by parallel sailing.	324.2 miles	325.4 miles	327.7 miles	328.9 miles

5	540	A	Determine the distance from LAT 34°18'S, LONG 172°40'E to LAT 34°18'S, LONG 152°38'E, by parallel sailing.	993.0 miles	995.2 miles	996.4 miles	998.6 miles	
5	541	D	You depart LAT 16°24'S, LONG 169°38'W, for LAT 16°24'S, LONG 174°52'E. What are the course and distance by parallel sailing?	090°T, 301 miles	090°T, 892 miles	270°T, 301 miles	270°T, 892 miles	
5	542	B	You observe the planet Saturn at a sextant altitude (hs) of 63°05.1' on 25 May . The index error is 4.5' off the arc. The height of eye is 62 feet. What is the observed altitude (Ho)?	63°00.6'	63°01.5'	63°02.9'	63°04.1'	
5	543	C	What was the current between 0520 and 0600?	201° at 1.0 knot	201° at 1.5 knot	021° at 1.5 knot	021° at 1.0 knots	
5	544	D	From your 0600 position, what is the course per gyrocompass to leave Watch Hill Light abeam to starboard at 2.0 miles if a southerly wind is producing 3° of leeway?	262°pgc	258°pgc	256°pgc	252°pgc	
5	545	B	At 0645, Watch Hill Point (left tangent) bears 314.5°T at 2.75 miles. What was the speed made good between 0600 and 0645?	11.4 knots	10.7 knots	9.8 knots	8.1 knots	
5	546	C	At 0705, you take the following bearings:  Watch Hill Light 030.5°pgc Latimer Reef Light 329.0°pgc Race Rock Light 262.0°pgc  What was the true course made good between 0645 and 0705?	266°T	263°T	256°T	252°T	
5	547	B	At 0705, you change course to head for The Race. You wish to leave Race Rock Light bearing due north at 0.4 mile. If the current is 100°T, at 2.8 knots, and you are turning for 12.0 knots, what course (pgc) should you steer?	267°pgc	263°pgc	255°pgc	250°pgc	
5	548	C	You are bound for New London. Where will you cross the demarcation line and be governed by the Inland Rules of the Road?	You are already governed by the Inland Rules.	Above the Thames River Bridge	In the Race	You will not be governed by the Rules.	

5	549	D	In order to check your compasses, you sight North Dumpling Island Light in line with Latimer Reef Light bearing 074°pgc. The helmsman was steering 303°pgc and 315° per standard magnetic compass at the time.  Which of the following is TRUE?	The true line of the range is 072°.	The deviation based on the observation is 15°W.	The magnetic compass error is 12°W.	The gyro error is exactly 1.5°E.
5	550	B	You observe the star Antares at a sextant altitude (hs) of 38°18.7' on 28 February . The index error is 2.4' on the arc. The height of eye is 40 feet (12.2 meters). What is the observed altitude (Ho)?	38°07.5'	38°09.0'	38°10.5'	38°12.5'
5	551	A	You are on course 092°T, and the engines are turning for 8 knots. At 0452, you take the following bearings: Stratford Point Light 020°pgc Stratford Shoal (Middle Ground) Light 141°pgc  What is your 0452 position?	LAT 41°05.2'N, LONG 73°07.8'W	LAT 41°05.0'N, LONG 73°07.5'W	LAT 41°05.0'N, LONG 73°07.3'W	LAT 41°04.8'N, LONG 73°07.3'W
5	552	D	If the visibility is 10 miles, what is the earliest time you can expect to see New Haven Light?	0500	0508	0514	You will not sight the light.
5	553	D	At 0507, Stratford Shoal Middle Ground Light bears 208°pgc. What is the position of your 0507 running fix?	LAT 41°04.6'N, LONG 73°04.7'W	LAT 41°04.8'N, LONG 73°04.8'W	LAT 41°04.8'N, LONG 73°04.9'W	LAT 41°05.1'N, LONG 73°05.1'W
5	554	A	Based on your running fix, you _____.	have a following current	have a head current	are being set to the north	are not affected by a current
5	555	D	Your 0507 position is about 7 miles from Bridgeport, CT. What is the distance from this position to Newport, RI?	114 miles	101 miles	95 miles	88 miles
5	556	A	Your 0530 position is LAT 41°04.9'N, LONG 73°01.1'W. What is the course per standard magnetic compass to a position 1.0 mile south of Twenty Eight Foot Shoal "TE" buoy?	099.5°psc	096.0°psc	092.5°psc	082.0°psc
5	557	B	The south shore of Long Island Sound near your position is _____.	high with numerous cliffs	fringed with rock shoals	backed by marshes and wooded uplands	low and marshy
5	558	C	At 0530, you change course to 090°T and increase speed to 8.5 knots. What is the course to steer per gyro compass if northerly winds are causing 2° of leeway?	094°pgc	092°pgc	090°pgc	088°pgc

5	559	B	At 0615, Stratford Point Light bears 292°pgc, Falkner Island Light bears 052°pgc, and Branford Reef Light bears 018°pgc. What was the current since 0530?	083° at 0.9 knots	083° at 1.2 knots	263° at 1.2 knots	263° at 0.9 knots
5	560	A	Which loran line can you follow to remain clear of all danger until south of New London?	9960-Y-43960	9960-X-26450	9960-W-14900	9960-W-15000
5	561	A	At 0615 you change course to 078°T. If there is no current, when will Falkner Island Light be abeam?	0730	0735	0743	0750
5	562	C	At 0700, Falkner Island Light bears 023°pgc, and the range to the south tip of Falkner Island is 7.1 miles. What was the course made good since 0615?	087°T	084°T	081°T	078°T
5	563	B	At 0705, the gyro loses power. At 0715, you are on course 092° per standard magnetic compass (psc) when you take the following bearings: Falkner Light bears 356°psc, Horton Point Light bears 123°psc, and Kelsey Point Breakwater Light bears 048°psc. What is the position of your 0715 fix?	LAT 41°06.7'N, LONG 72°36.0'W	LAT 41°07.0'N, LONG 72°36.2'W	LAT 41°07.2'N, LONG 72°36.4'W	LAT 41°07.4'N, LONG 72°36.4'W
5	564	C	Horton Point Light _____.	is 14 feet above sea level	has a fixed green light	is shown from a white square tower	is synchronized with a radio beacon
5	565	B	If visibility permits, Little Gull Island Light will break the horizon at a range of approximately _____.	18.0 miles	15.6 miles	12.8 miles	11.1 miles
5	566	C	Your cargo vessel is berthed near Lamberts Point in Norfolk. You are on a voyage to Baltimore, Maryland. Which larger scale chart should you use to show the area from Lamberts Point to Hampton Roads?	12224	12241	12245	12256
5	567	A	What is the distance from Lamberts Point to abeam of Thimble Shoal Lt. following the navigable channel?	11.2 miles	10.6 miles	9.8 miles	9.0 miles
5	568	B	You are delayed in sailing due to engineering problems. You get underway at 0630. A Coast Guard radio broadcast advises that an aircraft carrier will transit the Elizabeth River enroute Norfolk Naval Shipyard and a safety zone is in effect. Further information on how far you must remain from the carrier found is in _____.	PUB 117	Coast Pilot	Light List	Chart Number 1

5	569	B	At 0823, Old Point Comfort Light bears 000°T at 0.6 mile. What is your 0823 position?	LAT 36°59.8'N, LONG 76°18.0'W	LAT 36°59.5'N, LONG 76°18.4'W	LAT 36°59.0'N, LONG 76°19.6'W	LAT 36°55.5'N, LONG 76°18.6'W	
5	571	B	At 0845, you are approaching the entrances to Thimble Shoal Channel. What channel must you use?	The South Auxiliary Channel or Thimble Shoal Channel, but you must remain on the right hand side of the channel.	The South Auxiliary Channel since your draft is less than 25 feet (7.6 meters) and you are not a passenger vessel.	The North Auxiliary Channel since you are going to turn to a northerly heading near buoy "12".	You are not permitted to use any of the channels, but must remain outside the buoyed channel line.	
5	572	B	At 0908, you change course to 010°T. What course should you steer per standard magnetic compass?	359°	021°	017°	003°	
5	573	A	Visibility has decreased to 1 mile in haze. At 0948, you take the following radar ranges. What course should you steer from this fix to the York Spit channel between buoys "19" and "20"?  Thimble Shoal Light - 5.9 miles South end of trestle C of the Chesapeake Bay Bridge and Tunnel - 3.8 miles South end of trestle B of the Chesapeake Bay Bridge and Tunnel - 5.4 miles	010°pgc	008°pgc	004°pgc	001°pgc	
5	574	D	If you are making 10 knots, what is your ETA at York Spit Channel Buoys "19" and "20"?	0959	1002	1004	1006	
5	575	B	What is the course per standard magnetic compass on the southern leg of York Spit Channel between buoys "15" and "23"?	341°	339°	322°	319°	
5	576	C	What is indicated by the dashed magenta line crossing York Spit Channel between buoys "20" and "22"?	You are crossing the demarcation line between the COLREGS and the Inland Rules.	The line indicates a submarine cable, and you should not anchor in the area.	The line marks the limits of a regulated area.	It marks the range between Ft. Wool Light and Cape Charles Harbor Range, Rear Light.	
5	577	B	At 1015, you estimate you have 139 miles to complete the voyage. If you average 9.5 knots, you will complete the voyage in _____.	14 hours 44 minutes	14 hours 38 minutes	14 hours 30 minutes	14 hours 22 minutes	
5	578	C	At 1008, you are entering York Spit Channel and buoy "19" is abeam to your starboard. What speed are you making good?	9.9 knots	9.7 knots	9.0 knots	8.4 knots	
5	579	A	Which loran line of position will serve as a danger reading on the loran to keep you west of the submerged obstruction at LAT 37°24.2'N, LONG 76°03.7'W, after you leave York Spit Channel?	Not less than 9960-X-27246	Not more than 9960-Y-41595	Not less than 9960-Y-41595	Not less than 9960-Z-58622	

5	580	C	At 1037, you are on course 010°T at 10 knots, when you take the following loran readings: 9960-X-27243.8 9960-Y-41497.6 9960-Z-58575.9  What is your 1037 position?	LAT 37°15.9'N, LONG 76°07.9'W	LAT 37°15.9'N, LONG 76°07.7'W	LAT 37°16.1'N, LONG 76°07.4'W	LAT 37°16.3'N, LONG 76°07.2'W	
5	581	A	At 1119, Wolf Trap Light bears 268°T at 4.4 miles by radar. What were the set and drift since your 1037 fix?	358°, 0.7 knot	358°, 0.5 knot	178°, 0.7 knot	178°, 0.5 knot	
5	593	C	What is the length of the trip?	1195.4 miles	1223.1 miles	1520.1 miles	1657.8 miles	
5	594	B	After you get underway, what is the first river gage you will pass?	Head of Passes	Donaldsonville	Baton Rouge	Red River Landing	
5	595	D	You are passing the Bayou Sara Gage which reads 3.9 feet. The low water reference plane (LWRP) at Bayou Sara is 5.25 feet. Which of the following statements is TRUE?	The river level is above the Low Water Reference Plane.	Red Store Landing Revetment is ahead on your starboard side	This gage reading is at a lower elevation than the same reading on the Gage at Head of Passes.	None of the above.	
5	596	B	At 0921, on 24 July, you are abreast the St. Catherine Bar Lt. (mile 348.6 AHP). If you are turning for 10.0 mph, what was the current since departure?	1.4 mph	1.7 mph	2.0 mph	7.0 mph	
5	597	D	Which daymark will you see as you approach Natchez Beam Lt. (mile 364.8 AHP)?	Red diamond	White square	Green square	Red triangle	
5	598	C	At 1132, 24 July, you pass Natchez Beam Lt. (mile 364.8 AHP). What is your ETA off the Memphis Gage if you average 8.0 mph?	2345, 25 July	0525, 26 July	0947, 26 July	2215, 26 July	
5	599	A	Which town is located at mile 663.5 AHP?	Helena	Friers Point	St. Francis	Rodney	
5	600	D	What is the brown colored tint shown at Bordeaux Point Dykes (mile 681.0 AHP)?	river gage	fish hatchery	levee	dredge material	
5	601	D	At 1210 zone time, on 1 December, you depart Seattle, LAT 47°36.0'N, LONG 122°22.0'W (ZD +8). You are bound for Guam, LAT 13°27.0'N, LONG 144°37.0'E, and you estimate your speed of advance at 20 knots. The distance is 4,948 miles. What is your estimated zone time of arrival at Guam?	1734, 11 December	1934, 11 December	0334, 12 December	1334, 12 December	

5	602	D	At 1845 zone time, on 24 October , you depart Bimini Island, LAT 25°50.0'N, LONG 77°00.0'W (ZD +5). You are bound for Bishop Rock, LAT 49°40.0'N, LONG 6°34.0'W, and you estimate your speed of advance at 13.6 knots. The distance is 3,491 miles. What is your estimated zone time of arrival at Bishop Rock?	0627, 3 November	1642, 3 November	0939, 4 November	1627, 4 November
5	603	B	At 0915 zone time, on 7 November , you depart Seattle, LAT 47°36.0'N, LONG 122°22.0'W (ZD +8). You are bound for Kobe, LAT 34°40.0'N, LONG 135°12.0'E, and you estimate your speed of advance at 18.5 knots. The distance is 4,527 miles. What is your estimated zone time of arrival at Kobe?	1257, 17 November	0657, 18 November	1857, 18 November	0657, 19 November
5	604	C	At 1820 zone time, on 21 March , you depart San Francisco, LAT 37°48.5'N, LONG 122°24.0'W (ZD +8). You are bound for Melbourne, LAT 37°49.2'S, LONG 144°56.0'E, and you estimate your speed of advance at 21 knots. The distance is 6,970 miles. What is your estimated zone time of arrival at Melbourne?	1214, 4 April	2214, 4 April	0814, 5 April	1314, 5 April
5	605	A	At 0915 ZT, on 26 July , you depart Yokohama, LAT 35°27.0'N, LONG 139°39.0'E (ZD -9). You are bound for Seattle, LAT 47°36.0'N, LONG 122°22.0'W, and you estimate your speed of advance at 14 knots. The distance is 4,245 miles. What is your estimated ZT of arrival at Seattle?	0728, 7 August	1528, 7 August	0028, 8 August	1528, 8 August
5	606	A	At 0915 zone time, on 11 May , you depart Yokohama, LAT 35°27.0'N, LONG 139°39.0'E (ZD -9). You are bound for Seattle, LAT 47°36.0'N, LONG 122°22.0'W, and you estimate your speed of advance at 19.5 knots. The distance is 4,276 miles. What is your estimated zone time of arrival at Seattle?	1932, 19 May	0332, 20 May	1032, 20 May	1232, 20 May

5	607	B	At 0915 zone time, on 6 March , you depart Sydney, LAT 33°51.5'S, LONG 151°13.0'E (ZD -10). You are bound for Kodiak, LAT 57°47.0'N, LONG 152°25.0'W, and you estimate your speed of advance at 21 knots. The distance is 6,222 miles. What is your estimated zone time of arrival at Kodiak?	0732, 17 March	2132, 17 March	0732, 18 March	2132, 18 March
5	608	D	At 1200 zone time, on 10 October , you depart San Francisco, LAT 37°48.5'N, LONG 122°24.0'W (ZD +8). You are bound for Yokohama, LAT 35°27.0'N, LONG 139°39.0'E, and you estimate your speed of advance at 22 knots. The distance is 4,536 miles. What is your estimated zone time of arrival at Yokohama?	0111, 19 October	0211, 19 October	1011, 19 October	1911, 19 October
5	609	C	At 0915 zone time, on 7 April , you depart San Francisco, LAT 37°48.5'N, LONG 122°24.0'W (ZD +8). You are bound for Kobe, LAT 34°40.0'N, LONG 135°12.0'E, and you estimate your speed of advance at 17 knots. The distance is 4,819 miles. What is your estimated zone time of arrival at Kobe?	0343, 18 April	1243, 19 April	2143, 19 April	0443, 20 April
5	610	B	At 0820 zone time, on 10 April , you depart Yokohama, LAT 35°27.0'N, LONG 139°39.0'E (ZD -9). You are bound for Honolulu, LAT 21°18.5'N, LONG 157°52.2'W (ZD +10) and you estimate your speed of advance at 17.5 knots. The distance is 3,397 miles. What is your estimated zone time of arrival at Honolulu?	0127, 17 April	1527, 17 April	0127, 18 April	0927, 18 April
5	611	A	At 0600 zone time, on 22 October , you depart Manila, LAT 14°35.0'N, LONG 120°58.0'E (ZD -8). You are bound for Los Angeles, LAT 33°46.0'N, LONG 118°11.0'W, and you estimate your speed of advance at 20.2 knots. The distance is 6,385.9 miles. What is your estimated zone time of arrival at Los Angeles?	1808, 3 November	0208, 4 November	1008, 4 November	0208, 5 November
5	612	D	At 0530 zone time, on 20 December , you depart Cape Town (ZD -1). You are bound for New York (ZD +5), and you estimate your speed of advance at 25 knots. The distance is 6,762 miles. What is your estimated zone time of arrival at New York?	1200, 31 December	1100, 31 December	0700, 31 December	0600, 31 December

5	613	C	On 21 November, at 2100 zone time, you depart LAT 32°12.0'N, LONG 69°26.0'W enroute to LAT 12°05.0'N, LONG 7°32.0'W. The distance is 3,519 miles, and the average speed will be 12.5 knots. What is the zone time of arrival?	1330, 3 December	1530, 3 December	1830, 3 December	1530, 4 December	
5	614	C	Your vessel departs Arkhangel'sk, from position LAT 64°32'N, LONG 40°31'E at 0236 zone time, on 19 August. It is bound for New York, at position LAT 40°42'N, LONG 74°01'W. The distance is determined to be 4,216 miles, and you estimate that you will average 13.0 knots. What is your estimated zone time of arrival?	1155, 31 August	1755, 31 August	0655, 1 September	1155, 1 September	
5	615	B	Your vessel departs Yokohama from position LAT 35°27.0'N, LONG 139°39.0'E (ZD -9), at 1330 ZT, on 23 July, bound for Seattle at position LAT 47°36.0'N, LONG 122°22.0'W (ZD +8). The distance by great circle is 4,245 miles, and you estimate that you will average 13.6 knots. What is your estimated ZT of arrival?	0438, 4 August	2038, 4 August	0438, 5 August	1238, 5 August	
5	617	A	Your vessel will sail from a position in LAT 8°51.0'N, LONG 81°31.0'W to a position at LAT 33°51.5'S, LONG 151°13.0'E. The distance by great circle is 7,635 miles, and you estimate an average speed of 15.0 knots. What is your estimated zone time of arrival if you depart at 1510 ZT, on 23 July?	1110, 14 August	0110, 14 August	1110, 13 August	1510, 13 August	
5	618	A	Your vessel departs Seattle at 1010 zone time (ZD +8), on 28 May, bound for Apra, Guam (ZD -10). The distance by great circle is 4,948 miles, and you estimate that you will average 18.5 knots. What is your estimated zone time of arrival?	0737, 9 June	1737, 9 June	1937, 9 June	0737, 10 June	
5	619	C	Your vessel departs Montevideo, Uruguay, LAT 34°40.3'S, LONG 54°09.1'W (ZD +4), at 1800 zone time, on 15 October. It is bound for New York, LAT 40°27.5'N, LONG 73°49.9'W (ZD +5). The distance is 5,749 miles, and you expect to average 20 knots. What is your estimated zone time of arrival?	0427, 26 October	1627, 26 October	1627, 27 October	0427, 27 October	

5	620	D	On 21 May , at 0630 PDT (ZD +7), your vessel takes departure at the San Francisco Sea Buoy, LAT 37°45.0'N, LONG 122°41.5'W, enroute to Kobe, LAT 33°52.0'N, LONG 135°00.0'E via great circle. The distance is 4,245 miles, and you estimate that you will average 14.0 knots. What will be your estimated zone time of arrival?	0442, 2 June	1342, 2 June	0442, 3 June	1342, 3 June	
5	621	B	You are on a voyage from New York, NY, to San Francisco, CA. The distance from pilot to pilot is 5132 miles. The speed of advance is 13.5 knots. You estimate 32 hours for bunkering at Colon, and 14 hours for the Panama Canal transit. If you take departure at 0600 hours (ZD +4), 16 May, what is your ETA (ZD +7) at San Francisco?	0609, 1 June	2109, 2 June	0009, 3 June	0409, 3 June	
5	622	C	You are on a voyage from Limoy, Costa Rica, to Los Angeles, CA. The distance from departure to arrival is 3150 miles. The speed of advance is 14.0 knots. You estimate 24.0 hours for bunkering at Colon, and 12.0 hours for the Panama Canal transit. If you take departure at 1836 hours (ZD +6), 28 January, what is your ETA (ZD +8) at Los Angeles?	1736, 9 February	1736, 8 February	1336, 8 February	0536, 8 February	
5	623	C	You are on a voyage from Baltimore, MD, to Seattle, WA. The distance from pilot to pilot is 5960 miles. The speed of advance is 16.0 knots. You estimate 16 hours for bunkering at Colon, and 12.0 hours for the Panama Canal transit. If you take departure at 0824 hours (ZD +5), 18 November, what is your ETA (ZD +8) at Seattle?	1654, 5 December	1354, 5 December	2154, 4 December	1354, 4 December	
5	624	D	You are on a voyage from San Diego, CA, to New York, NY. The distance from pilot to pilot is 4860 miles. The speed of advance is 15.0 knots. You estimate 18 hours for bunkering at Colon, and 14 hours for the Panama Canal transit. If you take departure at 0836 hours (ZD +7), 4 July, what is your ETA (ZD +4) at New York?	0336, 20 July	0036, 19 July	0336, 19 July	0736, 19 July	

5	625	D	You are on a voyage from Boston, MA, to the South Pass, LA. The distance is 1870 miles, and the speed of advance is 13.6 knots. You estimate 16.5 hours for bunkering enroute at Port Everglades, FL. If you sailed at 0836 hours (ZD +5), 26 February , what was your ETA (ZD +6) at the South Pass?	2336, 3 March	1136, 4 March	1236, 4 March	1736, 4 March	
5	626	A	You are on a voyage from St. John, Canada, to Galveston, TX. The distance is 2280 miles, and the speed of advance is 15.0 knots. You estimate 16.5 hours for bunkering enroute at Ft. Lauderdale, FL. If you sailed at 1642 hours (ZD +4), 27 February , what was your ETA (ZD +6) at Galveston?	1512, 6 March	0812, 6 March	0712, 6 March	2312, 5 March	
5	627	A	You are on a voyage from Halifax, Nova Scotia, to Galveston, TX. The distance is 2138 miles, and the speed of advance is 12.5 knots. You estimate 18.0 hours for bunkering enroute at Port Everglades, FL. If you sail at 0648 hours (ZD +4), 12 June, what is your ETA (ZD +5) at Galveston?	0250, 20 June	0350, 20 June	0550, 20 June	1350, 20 June	
5	628	A	You are on a voyage from Valdez, AK, to the Panama Canal. The distance from pilot to pilot is 4950 miles. The speed of advance is 15.0 knots. You estimate a layover in San Francisco, CA, of 36.0 hours. If you take departure at 0800 (ZD +10), 29 October, what is your ETA (ZD +5) at the Panama Canal?	1900, 13 November	1400, 13 November	1400, 14 November	0900, 13 November	
5	629	B	You are on a voyage from Belem, Brazil, to Mobile, AL. The distance from departure to arrival is 3150 miles. The speed of advance is 14.0 knots. You estimate a layover in San Juan, Puerto Rico, of 17.5 hours. If you took departure at 2200 (ZD +3h 30m), 26 February , what was your ETA (ZD +6) at Mobile?	1900, 8 March	2200, 8 March	0400, 9 March	2200, 9 March	

5	630	C	You are on a voyage from Corpus Christi, TX, to Fort de France, Martinique. The distance from pilot to pilot is 2190 miles (2521 statute miles). The speed of advance is 15.0 knots. You estimate a layover in Charlotte Amalie, Virgin Islands, of 16.0 hours. If you take departure at 0654 (ZD +6), 27 November, what is your ETA (ZD +4) at Fort de France?	2054, 3 December	2254, 3 December	0254, 4 December	2054, 4 December	
5	631	D	From your 0100 position, you change course to 258° per standard magnetic compass. Your engine speed is 10.0 knots. A short time later, your fathometer reads 51 feet (15.5 meters) under the keel. What is the water depth?	38.5 feet (11.7 meters)	43.5 feet (13.2 meters)	51.0 feet (15.5 meters)	59.5 feet (18.0 meters)	
5	632	A	The Memphis Gage reads 18.4 feet. The high point of your towboat is 48 feet above water. What is the vertical clearance as you pass under the Memphis Highway Bridge?	46.4 feet	53.8 feet	66.4 feet	75.4 feet	
5	633	C	The Linwood Bend revetment on the LMR extends from mile _____.	828.1-823.1 RDB	831.7-829.4 RDB	841.3-838.7 LDB	845.4-842.5 LDB	
5	634	B	You have orders to drop off the empties at the fleeting area at Cairo Point and add five loaded tank barges to your tow. If you are turning for 9 mph and estimate the current at 1.5 mph, what is your ETA at Cairo?	1031, 22 June	1423, 22 June	1741, 22 June	2210, 22 June	
5	635	C	You complete changing out your tow and get underway enroute Ark City Tank Storage (mile 554.0 AHP) to deliver the tank barges. What is the distance you must travel from Cairo Point Light?	606.8 miles	554.0 miles	399.8 miles	202.1 miles	
5	636	D	As you approach Dean Island Light (mile 754.8 AHP), which type of daymark will be observed at the light?	Green triangle	Red and green banded square	Green square daymark	Diamond-shaped green daymark	
5	637	B	The highest point on your towboat is 48 feet above the water, and the Memphis Gage reads +7.5 feet. What is the vertical clearance when you pass under the Hernando Desoto Bridge in Memphis?	48.0 feet	53.2 feet	68.2 feet	116.0 feet	
5	638	A	What is the mile point of the Fulton Gage?	778 AHP	687 AHP	632 AHP	598 AHP	

5	640	C	Which of the following statements concerning the buoys on the Mississippi River is TRUE?	The position of river buoys can be determined by consulting the latest Light List - Vol. V.	A preferred channel mark is a lateral mark indicating a channel junction which must always be passed to starboard.	Setting a buoy is the act of placing a buoy on assigned position in the water.	None of the above.
5	641	A	At 1032 on 24 June, you pass Carolina Landing Light(508.8 AHP). What has been the average current since 2350, 23 June, if you have been making turns for 9.0 mph?	0.5 mph	1.5 mph	5.7 mph	8.5 mph
5	642	B	Where can scheduled broadcast times of river stages be found?	Sailing Directions	Light List	List of Lights	Coast Pilot
5	643	C	Which company does NOT have a marine facility in Rosedale harbor (mile 585 AHP)?	Sanders Elevator Corp	Rosedale-Boliver County Port Commission	T.L. James	Cives Steel Company
5	651	C	You are planning a voyage by great circle from Reykjavik (LAT 63°30'N, LONG 24°00'W) to the Azores (LAT 39°30'N, LONG 29°00'W). Which statement is TRUE? (Use gnomonic tracking chart WOXZC 5274)	The distance is measured in sixty-mile segments based on the length of a degree of latitude at the mid-latitude and mid-longitude position.	The Northern Hemisphere vertex lies south of Reykjavik.	The great circle track is not appreciably shorter than a rhumb line track.	When plotted on a Mercator chart, the great circle track will be convex to the British Isles.
5	652	C	On a voyage via the southern tip of Nova Scotia (LAT 43°20'N, LONG 65°35'W) you wish to sail the shortest route to La Coruna, Spain (LAT 43°20'N, LONG 8°24'W). Which of the following will require you to plot a composite sailing? (Use gnomonic tracking chart WOXZC 5274)	Shoals extending 15 miles from Sable Island	Sea ice reported 68 miles ESE of St. John's, Newfoundland	Icebergs reported extending west to west-northwest from LAT 47°00'N, LONG 35°00'W	Naval exercises using live ammunition being conducted within a 150 mile radius of LAT 49°00'N, LONG 20°00'W
5	653	A	On which voyage would a great circle track be significantly shorter than a rhumb line track? (Use gnomonic tracking chart WOXZC 5274)	Savannah, GA, to Lisbon, Portugal	Dublin, Ireland (Irish Sea), to La Coruna, Spain (LAT 43°22'N, LONG 8°24'W)	Reykjavik, Iceland, to Lisbon, Portugal	Boston to Sable Island

5	654	D	In planning a North Pacific voyage, you wish to steam the minimum distance from LAT 48°30'N, LONG 124°45'W to LAT 44°00'N, LONG 150°00'E, while remaining south of 51°N latitude. Which track meets these requirements? (Use gnomonic tracking chart WOXZC 5270)	A Mercator sailing from departure to the mid-longitude at 51°N, thence great circle to arrival	A great circle between departure and arrival with parallel sailing between the longitudes where the great circle intersects 51°N	A great circle tangent to 51°N from departure to the mid-longitude then a great circle to arrival	A great circle from departure to LAT 51°N, LONG 148°W, parallel sailing to LAT 51°N, LONG 171°W, then a great circle to arrival
5	655	C	On a North Pacific voyage, you wish to sail the shortest distance from LAT 46°05'N, LONG 124°00'W to LAT 44°00'N, LONG 150°00'E. You do not want to exceed 50°N latitude due to anticipated fog conditions. Which voyage plot meets these requirements? (Use gnomonic tracking chart WOXZC 5270)	A great circle between departure and arrival with Mercator legs north of the Aleutians	A great circle between departure and arrival with parallel sailing where the track intersects the 50°N parallel	A great circle to 50°N, 153°W, parallel sailing to 50°N, 173°W, then a great circle to arrival	A great circle from departure to the mid-longitude at 50°N, then another great circle to arrival
5	656	B	You are planning a voyage by great circle to Reykjavik, Iceland, via Cape Race, Newfoundland, LAT 46°30'N, LONG 53°00'W. Which statement is TRUE? (Use gnomonic tracking chart WOXZC 5274)	The track line will be concave to Cape Farewell (Kap Farvel) when plotted on a Mercator chart.	You will reach the northernmost latitude in the vicinity of Reykjavik.	The distance is measured using the length of a degree of latitude at the mid-latitude and mid-longitude position.	The Northern Hemisphere vertex is in the vicinity of 49°W longitude.
5	657	A	You are planning a voyage by great circle from the mouth of the Delaware River (LAT 38°40'N, LONG 75°00'W) to Lisbon, Portugal. Which statement is TRUE? (Use gnomonic tracking chart WOXZC 5274.)	You will reach the northernmost latitude of the voyage in the vicinity of LONG 42°30'W.	The Northern Hemisphere vertex lies to the east of Lisbon.	You must plot a composite sailing to remain south of icebergs reported north of 44°N.	The distance is measured in 60-mile segments using the length of the degree of latitude crossed by the track line.
5	658	C	You are planning a voyage by great circle from LAT 59°00'N, LONG 07°00'W via LAT 38°00'N, LONG 61°30'W. Which of the following statements is TRUE? (Use gnomonic tracking chart WOXZC 5274)	You are to the east of the Northern Hemisphere vertex.	When plotted on a Mercator chart the track line will be concave to Cape Farwell (Kap Farvel).	All courses are in the southwest quadrant of the compass.	Distance is measured by using the length of a degree of latitude at the midpoint of the track line.
5	659	C	You are planning a voyage from LAT 48°30'N, LONG 125°00'W to Korea via LAT 48°30'N, LONG 153°00'E. Which of the following track lines would you select for the safest and most direct route? (Use gnomonic tracking chart WOXZC 5270)	Parallel sailing along 48°30'N	Great circle track line between the two points	Great circle to LAT 51°00'N, LONG 178°00'W, parallel sailing for 80 miles, then great circle to the via point	Rhumb line track between the two points

5	660	D	You are planning a voyage between Portland, LAT 46°05'N, LONG 124°00'W, and Korea via LAT 44°00'N, LONG 155°00'E. Which statement is TRUE? (Use gnomonic tracking chart WOXZC 5270)	You can sail a great circle track between the two points.	The vertex of the great circle track is north of the Aleutian Islands.	Distance is measured in 60-mile segments using the length of a degree of latitude at the mid-latitude.	You can steam on course 270°T, at latitude 52°N, between longitudes 149°W and 160°W in a composite sailing.
5	661	B	Your voyage commences off Cape May, NJ, at LAT 38°40'N, LONG 74°00'W, for LAT 44°00'N, LONG 10°00'W. Sea ice is north of 45°N and west of 45°W. Extensive naval exercises will be conducted within a 150-mile radius of LAT 50°00'N, LONG 35°00'W. Which statement about a direct great circle route is TRUE? (Use gnomonic tracking chart WOXZC 5274.)	The latitude of the great circle vertex is above 50°N.	You must plot a composite sailing to remain south of the ice limits.	The naval exercises will interfere with the direct great circle route.	The shifting shoals northwest of Sable Island will be a navigational hazard on the track line.
5	662	B	You are planning a voyage by great circle from LAT 38°00'N, LONG 73°00'W to LAT 49°00'N, LONG 06°00'W. Which of the following statements is TRUE? (Use gnomonic tracking chart WOXZC 5274)	You will pass to the south of icebergs reported extending to 100 miles south of Cape Race Newfoundland.	The shoals with a 25-mile radius around Sable Island will be a hazard.	You will reach the maximum northerly latitude at longitude 29°45'W.	The distance is measured in 60-mile segments using the length of a degree of latitude at the vertex.
5	666	A	You are on a voyage via position LAT 44°00'N, LONG 150°00'E to LAT 46°15'N, LONG 124°00'W. Using gnomonic chart WOXZC 5270, determine which statement is TRUE?	A composite sailing with a limiting latitude of 51°N will clear the Aleutian Islands.	The northern hemisphere vertex is east of the arrival position.	The Aleutian Islands are not a navigational hazard on the direct great circle track.	The final course angle lies in the northeast quadrant.
5	667	C	You are planning a voyage from departure Seattle (LAT 48°30'N, LONG 125°00'W) to a position at LAT 44°00'N, LONG 161°00'E. Which statement is TRUE? (Use gnomonic chart WOXZC 5270.)	You must plot a composite sailing to remain south of the Aleutians.	The northern hemisphere vertex lies to the west of your arrival position.	Military exercises north of 53°N, between 150°W and 165°W, will not affect your voyage.	At your highest latitude, the sun will be visible at upper and lower transit if the voyage occurs on 21 June.
5	668	B	A great circle track would be most advantageous when compared to the rhumb line track on which route? (Use gnomonic tracking chart WOXZC5274)	Cayenne (LAT 4°40'N, LONG 52°15'W) to Sao Tome (LAT 0°00', LONG 6°45'E)	Palm Beach, FL, to the English Channel	Natal, Brazil, to Reykjavik, Iceland	Recife, Brazil, to Monrovia

5	669	B	You are planning a voyage from Cape May (LAT 38°45'N, LONG 74°45'W) to Lisbon (LAT 38°37'N, LONG 09°45'W). Which of the following is TRUE? (Use gnomonic chart WOXZC 5274)	Because the latitudes are almost the same, a great circle track approximates a parallel sailing.	The northern hemisphere vertex is approximately at longitude 42°26'W.	The distance is measured by using the length of one degree of the meridian at the position of the vertex.	A composite sailing must be plotted to remain south of a limiting latitude of 44°N.	
5	670	D	You are on a voyage from Cape May (LAT 39°50'N, LONG 74°45'W) to the English Channel (LAT 49°00'N, LONG 05°00'W). What will NOT prohibit the use of a great circle track from departure to arrival? (Use gnomonic chart WOXZC5274.)	Newfoundland	Icebergs north of 48°N and west of 49°W	Islands approximately 50 miles south of Cape Cod	The high latitude in which the vertex lies	
5	671	D	You are on a voyage from Nome to Honolulu via Unimak Pass (LAT 54°30'N, LONG 164°30'W). The great circle track passes through a point at LAT 38°00'N, LONG 161°40'W. Using gnomonic chart WOXZC5270, determine which answer is TRUE. (The great circle distance, Unimak Pass to Honolulu, is 2013 miles.)	A great circle track results in a significant savings in distance when compared to a rhumb line.	The northern vertex of the great circle track would lie between Unimak Pass and Nome.	Distance of the great circle track is measured by using the length of degree of latitude at the mid-latitude of the track.	A great circle course would offer no significant advantage because the rhumb line course is close to 180°.	
5	672	A	What is the total length of the trip?	922.3 miles	985.3 miles	1155.8 miles	1187.3 miles	
5	673	C	You estimate the current at 2.0 mph. What is the speed over the ground?	3.5 mph	4.5 mph	5.5 mph	9.5 mph	
5	674	B	What are the dimensions of the Port Allen Lock at Baton Rouge, LA?	75 feet x 1188 feet	84 feet x 1188 feet	84 feet x 1180 feet	75 feet x 1180 feet	
5	675	B	You are planning a voyage from Godthab, Greenland, to Cayenne, French Guiana. Using chart WOXZC 5274, determine which statement is TRUE.	Godthab is located at the Northern Hemisphere vertex.	The rhumb line track approximates a great circle track.	A great circle track will be considerably shorter due to the length of the voyage.	Distance is measured by using the length of meridian at the point of tangency.	
5	676	D	You are planning a voyage from Jacksonville, FL, to the Strait of Gibraltar. Using chart WOXZC 5274, determine which statement is TRUE.	All of the courses lie in the northeast quadrant of the compass.	You will be east of the Northern Hemisphere vertex during the entire voyage.	The great circle track approximates a rhumb line track because there is little difference in the latitudes.	None of the above are true.	

5	677	B	Which statement about a great circle track between Cape Flattery (LAT 48°30'N, LONG 125°00'W) and Guam (LAT 14°00'N, LONG 145°00'E) is TRUE? (Use gnomonic tracking chart WOXZC 5270)	The entire track line is to the west of the Northern Hemisphere vertex.	Military exercises being carried out within a 150 mile radius of LAT 47°10'N, LONG 137°30'W will interfere with the proposed track line.	Distance is measured by determining the length of a line in minutes of arc from the midpoint of the track to the point of tangency.	When plotted on a Mercator chart the great circle track will appear as an S curve with the curve reversing at the latitude of the point of tangency (30°N).	
5	678	A	Using gnomonic tracking chart WOXZC 5270, determine which of the following statements about a voyage from Valdez, AK, to Hilo, HI, is TRUE.	A great circle track is not significantly shorter than a rhumb line track.	You will cross the Northern Hemisphere vertex where the track line crosses LAT 45°N.	Distance is measured by using the length of a degree of longitude at the mid-latitude line.	When plotted on a Mercator chart, the track line will be convex to San Francisco.	
5	679	C	Using gnomonic tracking chart WOXZC 5270, determine which of the following statements about a voyage from San Francisco to San Bernardino Strait (LAT 13°00'N, LONG 125°30'E) is TRUE.	A composite sailing should be used to avoid the Bonin Islands.	Distance is measured using the length of a degree of longitude at the point of tangency.	You will cross the Northern Hemisphere vertex at the approximate longitude of 159°W.	The entire track line is west of the Northern Hemisphere vertex.	
5	680	D	On which voyage would a great circle track provide a significant savings in distance to steam, when compared to a rhumb line track? (Use gnomonic tracking chart WOXZC 5270.)	Valdez, AK, to the Marquesas Islands (LAT 8°00'S, LONG 140°00'W)	San Francisco to Kodiak, AK	Christmas Island (LAT 2°00'N, LONG 157°30'W) to Singapore via LAT 3°00'N, LONG 126°00'E	Guam (LAT 14°00'N, LONG 145°00'E) to Seattle via LAT 47°30'N, LONG 125°30'W	
5	681	D	At 0119, on 10 September, you pass Springfield Bend Lt. (mile 244.8 AHP) and estimate the current will average 2.5 mph for the remainder of your trip. What is your ETA at the mouth of the Ohio River if you are making turns for 8.5 mph?	1746, 12 September	1244, 13 September	1244, 14 September	2329, 14 September	
5	682	B	As you pass under the Natchez-Vidalia Dual Bridge, the gage on the bridge reads 8.9 ft. If the highest point on your vessel is 54 ft. above the water, what is your vertical clearance?	60.0 feet	63.1 feet	67.2 feet	122.0 feet	
5	683	D	Which type of daymark would you see on the Belle Island Corner Lt. at mile 458.6 AHP?	Green - Diamond	Green - Square	Red - Triangle	Red - Diamond	

5	684	B	At 1814, on 11 September, you pass under the Greenville Highway Bridge (mile 531.3 AHP). What speed must you average to arrive at Jimmy Hawken Light (mile 663.5 AHP) at 0930 the following day?	9.7 mph	8.7 mph	6.3 mph	5.6 mph
5	685	C	What company does NOT have a marine facility along the river bank in Madison Parish (mile 457.0 AHP)?	Complex Chemical Co.	Delta Southern Railroads	Baxter Wilson Steam	Farm Chemical
5	686	A	The Vaucluse Trench fill revetment on the LMR extends from mile _____.	535.6 - 532.9 RDB	535.9 - 534.3 RDB	535.9 - 534.3 LDB	534.3 - 532.6 LDB
5	687	A	What is the distance from Cairo,IL, to Parkersburg, WV?	795 miles	733 miles	597 miles	537 miles
5	688	D	What is the distance from the Amoco Docks at Baton Rouge, LA, to Pittsburgh, PA?	727.9 miles	981.5 miles	1575.3 miles	1681.7 miles
5	689	C	You are turning for 10 mph and passing Hog Point, LA. (mile 297.5 AHP). Angola reports that the current at Red River Landing is 4.5 mph. Which statement is TRUE?	The main channel lies on the south side of the island you see ahead.	You are making 14.5 mph over the ground.	An underwater stone dike has been constructed 0.5 miles upstream of Miles Bar Towhead.	You would expect to find the more favorable current near the broken red line in the river.
5	700	B	Which facility is located on the right descending bank at mile 363.6 AHP?	River Cement Corps..	Vidalia Dock and Storage Co.	T.L. James	Bunge Corps..
5	701	D	At 1118, on 24 May, you pass Natchez Gage and estimate the current will average 3.0 mph for the remainder of the time on the Mississippi River. What is your ETA at Cairo, IL if you continue to turn for 10 mph?	0840, 26 May	2218, 26 May	2218, 27 May	2339, 27 May
5	702	C	If the highest point of your towboat is 54 feet above the water and the Natchez Gage reads 24.8 feet, what will be your vertical clearance when passing under the Natchez-Vidalia westbound Highway Bridge?	35.9 feet	43.2 feet	47.2 feet	57.5 feet
5	703	D	In high water conditions, which publication would you consult for the latest information on buoys between Baton Rouge and Cairo?	List of Buoys and Daymarks	U.S.C.G. Light List	Army Corps. of Engineers Navigation Map	None of the above
5	704	C	As you approach Giles Bend Cut-off Light (mile 367.7 AHP), what type of daymark would you see on the light structure?	Green square	Green diamond	Red triangle	Red diamond

5	705	A	At 1554, on 25 May, you pass Huntington Point Light (mile 555.2 AHP). What was your average speed since departing Amoco Pipeline Co. DockS (mile 253.6 AHP)?	6.2 mph	5.2 mph	4.8 mph	4.3 mph	
5	706	B	The solid lines extending into the channel at mile 948 AHP are _____.	revetments	dikes	spoil areas	Westvaco Service Facilities	
5	707	C	What is the width of the widest span of the Cairo Highway Bridge (Upper Mississippi River mile 1.3)?	503 feet	625 feet	675 feet	800 feet	
5	726	A	On 16 December , your 1810 zone time DR position is LONG 129°46.5'W. At that time you observe Polaris with a sextant altitude (hs) of 23°56.8'. The chronometer time of the sight is 03h 12m 31s, and the chronometer error is 02m 16s fast. The index error is 2.5' off the arc, and the height of eye is 52.6 feet. What is your latitude by Polaris?	23°07.8'N	23°12.3'N	24°11.9'N	24°18.6'N	
5	727	A	On 11 February , your 1832 zone time DR position is LONG 110°52.6'W. At that time you observe Polaris with a sextant altitude (hs) of 26°19.8'. The chronometer time of the sight is 01h 34m 56s, and the chronometer error is 02m 16s fast. The index error is 2.7' off the arc, and the height of eye is 60.2 feet. What is your latitude by Polaris?	25°27.2'N	25°34.2'N	26°27.2'N	26°34.2'N	
5	729	C	On 24 September , your 1841 zone time DR position is LONG 129°34.5'E. At that time you observe Polaris with a sextant altitude (hs) of 25°20.8'. The chronometer time of the sight is 09h 38m 12s, and the chronometer error is 03m 12s slow. The index error is 4.3' off the arc, and the height of eye is 52 feet (15.9 meters). What is your latitude by Polaris?	24°28.1'N	25°16.0'N	25°37.6'N	25°42.3'N	

5	730	A	On 18 November , your 1750 zone time DR position is LONG 110°16.0'W. At that time you observe Polaris with a sextant altitude (hs) of 21°29.8'. The chronometer time of the sight is 00h 52m 43s, and the chronometer error is 02m 18s fast. The index error is 3.2' on the arc, and the height of eye is 49.5 feet. What is your latitude by Polaris?	21°03.4'N	21°13.4'N	21°28.1'N	21°35.1'N
5	731	B	On 2 January , your 1759 zone time DR position is LONG 45°17.6'W. At that time you observe Polaris with a sextant altitude (hs) of 24°16.5'. The chronometer time of the sight is 08h 57m 10s, and the chronometer error is 02m 16s slow. The index error is 3.5' on the arc, and the height of eye is 42.5 feet. What is your latitude by Polaris?	22°50.2'N	23°18.8'N	23°30.8'N	23°48.8'N
5	732	C	On 3 January , your 1759 zone time DR position is LONG 60°53.2'W. At that time you observe Polaris with a sextant altitude (hs) of 22°55.8'. The chronometer time of the sight is 09h 57m 10s, and the chronometer error is 02m 26s slow. The index error is 2.9' off the arc, and the height of eye is 52.5 feet. What is your latitude by Polaris?	21°35.2'N	21°52.5'N	22°03.6'N	22°22.6'N
5	733	A	On 12 March , your 1846 zone time DR position is LONG 129°16.5'W. At that time you observe Polaris with a sextant altitude (hs) of 28°01.5'. The chronometer time of the sight is 03h 44m 10s, and the chronometer error is 01m 55s slow. The index error is 2.2' off the arc, and the height of eye is 59.8 feet (18.2 m). What is your latitude by Polaris?	27°33.7'N	27°40.9'N	27°54.4'N	28°06.9'N
5	734	B	On 11 March , your 1846 zone time DR position is LAT 25°05.7'N, LONG 124°29.0'W. At that time you observe Polaris with a sextant altitude (hs) of 25°59.1'. The chronometer time of the sight is 02h 44m 01s, and the chronometer error is 02m 15s slow. The index error is 3.9' on the arc, and the height of eye is 42.7 feet (13.0 meters). What is your latitude by Polaris?	25°14.2'N	25°17.9'N	25°28.1'N	26°15.2'N

5	735	C	On 22 August , your 1852 zone time DR position is LONG 155°54.0'E. At that time you observe Polaris with a sextant altitude (hs) of 27°36.9'. The chronometer time of the sight is 08h 54m 06s, and the chronometer error is 02m 20s fast. The index error is 3.6' off the arc, and the height of eye is 61.5 feet. What is your latitude by Polaris?	27°05.5'N	27°31.0'N	28°05.9'N	28°09.5'N
5	736	B	On 6 March , your 1854 zone time DR position is LAT 23°51.5'N, LONG 73°14.0'W. At that time you observe Polaris with a sextant altitude (hs) of 24°16.5'. The chronometer time of the sight is 11h 52m 40s, and the chronometer error is 01m 56s slow. The index error is 5.0' on the arc, and the height of eye is 43.5 feet (13.3 meters.) What is your latitude by Polaris?	23°29.5'N	23°36.3'N	23°49.9'N	24°02.9'N
5	737	B	On 29 July , your 1930 zone time DR position is LONG 164°26.0'E. At that time you observe Polaris with a sextant altitude (hs) of 23°46.8'. The chronometer time of the sight is 08h 32m 18s, and the chronometer error is 02m 26s fast. The index error is 2.7' on the arc, and the height of eye is 56.0 feet. What is your latitude by Polaris?	24°01.9'N	24°19.5'N	24°31.7'N	25°19.6'N
5	738	C	On 24 September , your 1841 zone time DR position is LAT 25°15.0'N, LONG 129°34.5'E. At that time you observe Polaris with a sextant altitude (hs) of 25°20.8'. The chronometer time of the sight is 09h 38m 12s, and the chronometer error is 03m 12s slow. The index error is 4.3' off the arc, and the height of eye is 52.0 feet. What is your latitude by Polaris?	24°28.4'N	25°16.0'N	25°37.6'N	25°42.3'N
5	739	C	On 29 April , your 1913 zone time DR position is LAT 22°09.0'N, LONG 56°16.0'W. At that time you observe Polaris with a sextant altitude (hs) of 22°25.8'. The chronometer time of the sight is 11h 11m 14s, and the chronometer error is 02m 18s slow. The index error is 1.5' off the arc, and the height of eye is 61.5 feet. What is your latitude by Polaris?	21°39.9'N	21°55.7'N	22°39.9'N	22°48.8'N

5	740	B	On 14 March , your 1846 ZT DR position is LAT 21°57.6'N, LONG 132°16.2'W. At that time you observe Polaris with a sextant altitude (hs) of 22°16.8'. The chronometer time of the sight is 03h 45m 10s, and the chronometer error is 01m 32s slow. The index error is 3.2' off the arc, and the height of eye is 44.9 feet. What is your latitude by Polaris?	21°32.4'N	21°49.8'N	21°51.0'N	21°53.1'N
5	741	A	On 16 February , your 1845 ZT DR position is LAT 25°50.5'N, LONG 46°24.0'W. At that time you observe Polaris with a sextant altitude (hs) of 26°25.5'. The chronometer time of the sight is 09h 47m 30s and the chronometer error is 02m 16s fast. The index error is 2.5' off the arc, and the height of eye is 55.0 feet. What is your latitude by Polaris?	25°38.0'N	25°44.2'N	26°00.1'N	26°37.5'N
5	742	D	On 15 July , at 0447 ZT, your vessel's DR position is LAT 22°42'N, LONG 126°36'E. At approximately this time, you obtain a sextant altitude (hs) of Polaris reading 23°46.2' with an index error of 1.6' off the arc. Your chronometer reads 08h 48m 28s, and is 1m 16s fast. What is your latitude by Polaris, given a height of eye of 33 feet?	22°44.1'N	22°46.2'N	22°50.2'N	22°54.1'N
5	743	B	On 7 March , at 1838 ZT, in DR position LAT 34°26.9'N, LONG 58°16.2'W, you observe Polaris for latitude. The sextant altitude (hs) is 35°08.4'. The index error is 2.5' off the arc. The height of eye is 54 feet. What is the latitude at the time of the sight?	34°29.8'N	34°33.4'N	34°34.8'N	34°36.8'N
5	744	C	On 22 May , at 0440 ZT, your vessel's DR position is LAT 23°24'N, LONG 110°24'W. At approximately this time, you obtain a sextant altitude (hs) of Polaris reading 23°40.9' with an index error of 1.6' on the arc. Your chronometer reads 11h 42m 14s, and is 2m 36s fast. What is your latitude by Polaris, given a height of eye of 24 feet?	23°28.6'N	23°30.0'N	23°31.2'N	23°32.8'N

5	745	A	On 13 October , at 1847 ZT, your vessel's DR position is LAT 42°17.4'N, LONG 138°46.2'W. At approximately this time, you obtain a sextant altitude (hs) of Polaris reading 42°16.8', with an index error of 3.2' on the arc. Your chronometer reads 03h 45m 20s and is 1m 32s slow. What is your latitude by Polaris, given a height of eye of 44 feet?	42°09.1'N	42°12.5'N	42°16.0'N	42°19.5'N
5	746	C	On 16 January , at 1804 zone time, you take a sextant observation of Polaris. Your vessel's DR position is LAT 36°12'N, LONG 124°36'W, and your sextant reads (hs) 37°16.4'. Your chronometer reads 02h 02m 12s, and is 01m 36s slow. Your height of eye is 60 feet, and the index error is 1.5' on the arc. From your observation of Polaris, what is the latitude of your vessel?	36°12.6'N	36°14.4'N	36°17.9'N	36°20.2'N
5	747	D	On 14 March , at 1845 ZT, you take a sextant observation of Polaris. Your DR position is LAT 29°10'N, LONG 154°30'W, and your sextant reads 29°53.5'. Your chronometer reads 04h 42m 36s, and the chronometer error is 02m 24s slow. Your height of eye is 24 feet, and the index error is 1.3' off the arc. Determine the latitude by Polaris.	29°11.7'N	29°15.5'N	29°18.0'N	29°21.3'N
5	748	D	On 7 May , you observe Polaris for latitude at 0303 ZT. Your DR position is LAT 56°35.4'N, LONG 05°38.9'W. The sextant altitude is 56°11.1'. The height of eye is 36', and the index error is 3.3' off the arc. What is the latitude at the time of the sight?	56°24.6'N	56°32.6'N	56°35.0'N	56°38.7'N
5	749	A	On 15 February at 0610 ZT, in DR position LAT 56°53.0'N, LONG 157°02.9'E, you observe Polaris at a sextant altitude (hs) of 56°10.4'. The index error is 2.5' on the arc, and the height of eye is 18 meters. What is the latitude?	56°41.8'N	56°47.9'N	56°48.1'N	57°10.6'N

5	750	C	On 28 October , at 1754 ZT, your vessel's DR position is LAT 28°30'N, LONG 63°24'W. At this time, you obtain a sextant altitude (hs) of Polaris reading 28°42.6', with an index error of 2.4' on the arc. Your chronometer reads 09h 50m 00s, and is 4m 14s slow. What is your latitude by Polaris, given a height of eye of 28 feet (8.5 meters)?	28°25.2'N	28°30.6'N	28°34.9'N	28°41.3'N
5	751	C	On 16 July , at 2000 zone time, you take a sextant observation of Polaris. Your vessel's DR position is LAT 27°22.0'N, LONG 148°35.0'W, and your sextant reads 26°57.5'. Your chronometer reads 05h 59m 16s, and your chronometer error is 01m 28s slow. Your height of eye is 48 feet, and the index error for your sextant is 1.3' off the arc. What is the latitude of your vessel from your observation of Polaris?	26°52.1'N	26°58.8'N	27°36.1'N	27°43.4'N
5	752	B	On 5 May , at 1953 zone time, you take a sextant observation of Polaris. Your vessel's DR position is LAT 29°30.0'N, LONG 66°25.7'W, and your sextant reads 29°07.2'. Your chronometer reads 11h 51m 45s, and your chronometer error is 01m 36s slow. Your height of eye is 56 feet, and the index error for your sextant is 1.5' on the arc. What is the latitude of your vessel from your observation of Polaris?	29°14.3'N	29°23.6'N	29°32.3'N	29°38.8'N
5	753	B	On 10 June , your 2010 zone time DR position is LAT 41°10.0'N, LONG 61°15.0'W. At that time, you observe Polaris with a sextant altitude (hs) of 40°35.8'. The chronometer time of the sight is 00h 08m 18s, and the chronometer error is 01m 54s slow. The index error is 2.0' on the arc, and the height of eye is 40 feet. What is your latitude by Polaris?	41°10.6'N	41°15.0'N	41°18.3'N	41°21.2'N

5	755	C	You are taking a time tick using the 1400 signal from Buenos Aires, Argentina. You hear a 0.4 second dash followed by a series of dots, noting that the 29th and the 56th to 59th dots are omitted. At the start of the following 0.4 second dash (which is followed by an 8 second pulse), the comparing watch reads 01h 59m 57s. When compared to the chronometer, the comparing watch reads 02h 00m 38s, and the chronometer reads 02h 01m 33s. What is the chronometer error?	0m 03s slow	0m 41s slow	0m 52s fast	1m 36s fast	
5	756	B	Anchorage regulations for this area may be obtained from _____.	Commanding General, Corps of Engineers, Washington, D.C.	Office of the Commander 5th Coast Guard District	Virginia - Maryland Pilots Association	Chesapeake Bay Port Authority, Hampton VA	
5	806	C	On 15 November , your 0913 zone time fix gives you a position of LAT 22°30.0'N, LONG 68°28.0'W. Your vessel is on course 164°T, and your speed is 13.5 knots. Local apparent noon (LAN) occurs at 1118 zone time at which time meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 49°46.0'. What is the calculated latitude at LAN?	21°36.1'N	21°37.7'N	21°39.3'N	21°40.9'N	
5	807	B	On 12 February your 0542 zone time (ZT) fix gives you a position of LAT 26°42.0'N, LONG 60°18.0'W. Your vessel is on course 300°T, and your speed is 9.8 knots. Local apparent noon (LAN) occurs at 1220 ZT at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 49°10.0'. What is the calculated latitude at LAN?	27°13.5'N	27°16.3'N	27°17.6'N	27°19.2'N	
5	808	C	On 28 July , your 0800 zone time fix gives you a position of LAT 25°16.0'N, LONG 71°19.0'W. Your vessel is on course 026°T, and your speed is 17.5 knots. Local apparent noon (LAN) occurs at 1149 zone time, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 82°28.7'. What is the calculated latitude at LAN?	26°21.9'N	26°23.4'N	26°25.0'N	26°27.7'N	

5	809	D	On 7 November , your 0830 zone time fix gives you a position of LAT 27°36.0'N, LONG 163°19.0'W. Your vessel is on course 289°T, and your speed is 19.0 knots. Local apparent noon (LAN) occurs at 1138 zone time, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 45°35.0'. What is the calculated latitude at LAN?	27°52.3'N	27°53.4'N	27°55.1'N	27°57.2'N
5	810	A	On 13 October , your 0515 zone time (ZT) fix gives you a position of LAT 26°53.0'N, LONG 90°05.0'W. Your vessel is on course 068°T, and your speed is 7.8 knots. Local apparent noon (LAN) occurs at 1145 zone time, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 54°51.5'. What is the calculated latitude at LAN?	27°12.6'N	27°14.1'N	27°15.7'N	27°16.2'N
5	811	C	On 1 July , your 0515 ZT fix gives you a position of LAT 24°36.0'S, LONG 151°42.0'W. Your vessel is on course 300°T, and your speed is 10.0 knots. Local apparent noon (LAN) occurs at 1215 ZT, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 42°55.0'. What is the calculated latitude at LAN?	24°03.6'S	24°02.5'S	24°01.0'S	24°00.0'S
5	812	B	On 28 July , your 0800 zone time (ZT) fix gives you a position of LAT 25°16.0'N, LONG 71°19.0'W. Your vessel is on course 026°T, and your speed is 17.5 knots. Local apparent noon (LAN) occurs at 1150 ZT, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 82°28.7'. What is the latitude at 1200 ZT?	26°25.0'N	26°27.6'N	26°29.8'N	26°32.0'N

5	813	C	On 7 November , your 0830 zone time fix gives you a position of LAT 27°36.0'N, LONG 162°19.0'W. Your vessel is on course 289°T and your speed is 19.0 knots. Local apparent noon (LAN) occurs at 1138 zone time, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 45°35.0'. What is the latitude at 1200 ZT?	27°55.1'N	27°57.2'N	27°59.5'N	28°01.9'N
5	814	C	On 1 July , your 0515 zone time fix gives you a position of LAT 23°24.0'S, LONG 151°42.0'W. Your vessel is on course 240°T, and your speed is 10.0 knots. Local apparent noon (LAN) occurs at 1215 zone time, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 42°55.0'. What is the latitude at 1200 ZT?	24°02.5'S	24°01.0'S	23°59.7'S	23°58.6'S
5	815	A	On 13 October , your 0515 zone time fix gives you a position of LAT 26°53.0'N, LONG 90°05.0'W. Your vessel is on course 068°T, and your speed is 7.8 knots. Local apparent noon (LAN) occurs at 1145 zone time, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 54°51.5'. What is the latitude at 1200 ZT?	27°13.3'N	27°14.6'N	27°15.7'N	27°16.8'N
5	816	A	On 15 November , your 0813 zone time (ZT) fix gives you a position of LAT 22°30.0'N, LONG 67°28.0'W. Your vessel is on course 164°T, and your speed is 13.5 knots. Local apparent noon (LAN) occurs at 1215 ZT, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 49°46.0'. What is the latitude at 1200 ZT?	21°42.5'N	21°39.3'N	21°36.0'N	21°32.8'N
5	817	A	On 15 December , in DR position LAT 23°24.0'N, LONG 55°36.0'W, you take an ex-meridian observation of the Sun's lower limb. The chronometer time of the sight is 03h 45m 19s, and the chronometer error is 00m 00s. The sextant altitude (hs) is 43°02.3'. The index error is 2.6' on the arc, and your height of eye is 65.0 feet. What is the latitude at meridian transit?	LAT 23°33.5'N	LAT 23°35.8'N	LAT 23°38.1'N	LAT 23°40.6'N

5	818	B	On 30 December , in DR position LAT 28°24.0'S, LONG 32°15.0'W, you take an ex-meridian observation of the Sun's lower limb. The chronometer time of the sight is 02h 09m 16s, and the chronometer error is 00m 00s. The sextant altitude (hs) is 84°03.3'. The index error is 3.5' off the arc, and your height of eye is 62.0 feet. What is the latitude at meridian transit?	LAT 28°50.6'S	LAT 28°51.9'S	LAT 28°54.2'S	LAT 28°56.6'S
5	819	B	On 27 March , in DR position LAT 32°31.0'N, LONG 76°25.0'W, you take an ex-meridian observation of the Sun's lower limb. The chronometer time of the sight is 05h 23m 32s, and the chronometer error is 01m 30s fast. The sextant altitude (hs) is 59°59.0'. The index error is 1.8' off the arc, and your height of eye is 52 feet. What is the latitude at meridian transit?	LAT 32°21.6'N	LAT 32°29.5'N	LAT 32°37.6'N	LAT 32°46.2'N
5	820	D	On 15 March , in DR position LAT 21°42.0'N, LONG 55°26.0'W, you take an ex-meridian observation of the Sun's lower limb. The chronometer time of the sight is 04h 02m 40s, and the chronometer error is 02m 24s fast. The sextant altitude (hs) is 66°15.6'. The index error is 2.8' on the arc, and your height of eye is 56 feet. What is the latitude at meridian transit?	21°12.0'N	21°18.0'N	21°24.4'N	21°32.0'N
5	821	A	On 30 August , in DR position LAT 26°34.0'N, LONG 141°36.0'W, you take an ex-meridian observation of the Sun's lower limb. The chronometer time of the sight is 09h 15m 26s, and the chronometer error is 00m 00s. The sextant altitude (hs) is 71°41.7'. The index error is 3.2' off the arc, and your height of eye is 49.6 feet. What is the latitude at meridian transit?	LAT 26°41.9'N	LAT 26°44.6'N	LAT 26°48.2'N	LAT 26°52.3'N
5	822	C	On 10 March , in DR position LAT 21°42.0'S, LONG 57°28.0'E, you take an ex-meridian observation of the Sun's lower limb. The chronometer time of the sight is 08h 28m 17s, and the chronometer error is 00m 00s. The sextant altitude (hs) is 72°08.0'. The index error is 3.4' on the arc, and your height of eye is 52.7 feet. What is the latitude at meridian transit?	LAT 21°32.5'S	LAT 21°40.6'S	LAT 21°45.5'S	LAT 21°50.2'S

5	823	B	<p>On 15 October , an ex-meridian altitude of the Sun's lower limb at upper transit was observed at 1146 ZT. Your DR position is LAT 22°42.0'N, LONG 139°52.0'E, and your sextant altitude (hs) is 58°30.4'. The index error is 3.4' on the arc, and your height of eye is 56.7 feet. The chronometer time of the observation is 02h 45m 06s, and the chronometer error is 01m 06s slow. Find the latitude at meridian transit from the ex-meridian observation.</p>	LAT 22°29.1'N	LAT 22°35.2'N	LAT 22°58.1'N	LAT 23°20.6'N
5	824	A	<p>On 30 October , an ex-meridian altitude of the Sun's lower limb at upper transit was observed at 1144 ZT. Your DR position is LAT 22°42.0'S, LONG 137°16.0'W, and your sextant altitude (hs) is 80°59.4'. The index error is 2.5' off the arc, and your height of eye is 42.5 feet. The chronometer time of the observation is 08h 46m 15s, and the chronometer error is 02m 12s fast. Find the latitude at meridian transit from the ex-meridian observation.</p>	LAT 22°31.4'S	LAT 22°42.3'S	LAT 22°46.2'S	LAT 23°00.9'S
5	825	B	<p>On 15 August , an ex-meridian altitude of the Sun's lower limb at upper transit was observed at 1130 ZT. Your DR position is LAT 26°24.0'S, LONG 155°02.0'E, and your sextant altitude (hs) is 48°45.9'. The index error is 2.6' on the arc, and your height of eye is 51.5 feet. The chronometer time of the observation is 01h 27m 38s, and the chronometer error is 02m 14s slow. Find the latitude at meridian transit from the ex-meridian observation.</p>	LAT 26°32.6'S	LAT 26°51.6'S	LAT 26°57.0'S	LAT 27°09.9'S
5	826	C	<p>On 5 May , in DR position LAT 38°34.5'N, LONG 124°20.7'W, you take an ex-meridian observation of the Sun's lower limb. The chronometer time of the sight is 07h 59m 10s, and the chronometer error is 01m 10s slow. The sextant altitude (hs) is 67°27.0'. The index error is 1.4' on the arc, and your height of eye is 30 feet. What is the latitude at meridian transit?</p>	LAT 38°26.4'N	LAT 38°30.2'N	LAT 38°36.0'N	LAT 38°41.2'N

5	827	A	On 16 November , your 1200 ZT DR position is LAT 26°48.0'S, LONG 124°32.0'W. Your vessel is on course 078°T, speed 17.0 knots. You observe an ex-meridian of the Sun's lower limb. The sextant (hs) reads 81°41.3'. The index error is 1.5' off the arc, and your height of eye is 56 feet. The chronometer time of the observation is 08h 15m 32s, and the chronometer is 03m 06s fast. What is your latitude at meridian transit?	26°42.6'S	26°47.1'S	26°49.5'S	26°52.3'S
5	828	D	On 2 January , your 1000 DR position is LAT 29°22.0'N, LONG 68°22.0'W. Your vessel is on course 332°T, speed 14.7 knots. You estimate the time of LAN to be 1134 ZT; however, the sky is overcast. At 1126 ZT, you observe the upper limb of the Sun through a break in the clouds. The chronometer at the time of the sight reads 04h 25m 51s and is 17s slow. The sextant reads 37°40.0' and the index error is 2.5' on the arc. The height of eye is 39 feet. What is the latitude at meridian transit?	29°36.2'N	29°43.2'N	29°47.8'N	29°55.4'N
5	829	B	On 8 May , in DR position LAT 30°26.0'N, LONG 46°55.1'W, you take an ex-meridian observation of Dubhe. The chronometer time of the sight is 11h 10m 54s, and the chronometer error is 01m 18s slow. The sextant altitude (hs) is 58°35.0'. The index error is 1.5' on the arc, and your height of eye is 44 feet. What is the latitude at meridian transit?	LAT 30°12.5'N	LAT 30°19.8'N	LAT 30°27.6'N	LAT 30°35.8'N
5	830	A	On 23 August , in DR position LAT 24°22.0'S, LONG 64°55.3'E, you take an ex-meridian observation of the Moon's upper limb at upper transit. The chronometer time of the sight is 02h 15m 04s, and the chronometer error is 01m 06s fast. The sextant altitude (hs) is 48°03.6'. The index error is 2.0' on the arc, and your height of eye is 60 feet (21.0 meters). What is the latitude at meridian transit?	24°20.5'S	24°22.8'S	24°24.8'S	24°49.5'S

5	831	B	On 30 March , in DR position LAT 20°26.2'N, LONG 131°17.9'E, you take an ex-meridian observation of the Moon's lower limb at upper transit. The chronometer time of the sight is 10h 36m 02s, and the chronometer error is 02m 06s slow. The sextant altitude (hs) is 48°21.4'. The index error is 2.0' on the arc, and your height of eye is 40 feet. What is the latitude at meridian transit?	LAT 20°44.8'N	LAT 20°31.9'N	LAT 20Z°23.7'N	LAT 20°15.6'N
5	832	B	On 19 November , in DR position LAT 20°03.5'N, LONG 129°48.0'W, you take an ex-meridian observation of the planet Venus at upper transit. The chronometer time of the sight is 11h 29m 44s, and the chronometer error is 01m 23s slow. The sextant altitude (hs) is 43°54.3'. The index error is 2.0' off the arc, and your height of eye is 48 feet. What is the latitude at meridian transit?	20°08.2'N	19°58.0'N	19°53.2'N	19°50.6'N
5	833	C	On 17 November , in DR position LAT 01°14.4'S, LONG 148°45.5'E, you take an ex-meridian observation of the planet Venus at upper transit. The chronometer time of the sight is 05h 31m 42s, and the chronometer error is 01m 50s fast. The sextant altitude (hs) is 64°41.1'. The index error is 1.8' off the arc, and your height of eye is 50 feet. What is the latitude at meridian transit?	LAT 01°14.4'S	LAT 01°16.3'S	LAT 01°18.0'S	LAT 01°20.2'S
5	836	A	On 16 June , in DR position LAT 50°57.0'S, LONG 53°03.9'W (ZD+4), you take an ex-meridian observation of Acrux at lower transit. The chronometer time of the sight is 10h 08m 18s, and the chronometer error is 02m 12s fast. The sextant altitude (hs) is 23°49.0'. The index error is 1.1' off the arc, and your height of eye is 26 feet. What is the latitude at meridian transit?	50°41.2'S	51°02.2'S	51°33.0'S	51°41.2'S

5	839	C	On 22 August , in DR position LAT 29°41.8'N, LONG 33°15.5'W, you take an ex-meridian observation of the Moon's upper limb at upper transit. The chronometer time of the sight is 08h 00m 02s, and the chronometer error is 02m 20s slow. The sextant altitude (hs) is 74°32.4'. The index error is 1.5' off the arc, and your height of eye is 48 feet. What is the latitude at meridian transit?	LAT 29°39.3'N	LAT 29°41.3'N	LAT 29°47.8'N	LAT 29°49.7'N
5	840	B	On 29 October , in DR position LAT 41°12.0'N, LONG 50°18.9'W, you take an ex-meridian observation of the Sun's lower limb, near upper transit. The chronometer time of the sight is 03h 21m 12s, and the chronometer error is 01m 50s slow. The sextant altitude (hs) is 34°54.2'. The index error is 2.0' on the arc, and your height of eye is 45 feet. What is the latitude at meridian transit?	41°12.0'N	41°16.0'N	41°20.2'N	41°23.6'N
5	844	B	On 12 September , your 0600 zone time (ZT) fix gives you a position of LAT 22°51.9'N, LONG 133°40.1'W. Your vessel is on course 062°T, and your speed is 12.3 knots. Local apparent noon (LAN) occurs at 1142 ZT, at which time a meridian altitude of the Sun's upper limb is observed. The observed altitude (Ho) for this sight is 70°33.2'. What is the calculated latitude at LAN?	23°23.0'N	23°24.8'N	23°26.5'N	23°27.9'N
5	845	C	On 16 September , your 0600 ZT fix gives you a position of LAT 29°47.2'N, LONG 65°28.4'W. Your vessel is on course 242°T and your speed is 13.5 knots. Local apparent noon (LAN) occurs at 1227 ZT, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 63°25.3'. What is the calculated latitude at LAN?	29°07.9'N	29°06.1'N	29°04.7'N	29°01.6'N

5	846	A	On 22 February , your 0612 zone time fix gives you a position of LAT 27°16.2'S, LONG 37°41.6'W. Your vessel is on course 298°T, and your speed is 14.2 knots. Local apparent noon (LAN) occurs at 1147 zone time, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 73°33.3'. What is the calculated latitude at LAN?	26°31.4'S	26°29.5'S	26°27.1'S	26°24.8'S
5	847	D	On 17 December , your 0600 ZT fix gives you a position of LAT 27°16.7'N, LONG 138°39.2'W. Your vessel is on course 137°T, and your speed is 14.8 knots. Local apparent noon (LAN) occurs at 1207 ZT, at which time a meridian altitude of the Sun's lower limb is observed. The observed altitude (Ho) for this sight is 40°22.1'. What is the calculated latitude at LAN?	26°09.9'N	26°11.6'N	26°13.0'N	26°15.4'N
5	976	A	On 7 November , your 0830 zone time position was LAT 27°36.0'N, LONG 162°19.0'W. Your vessel was steaming on course 289°T at a speed of 19.0 knots. An observation of the Sun's lower limb was made at 0945 ZT. The chronometer read 08h 43m 11s and was slow 01m 51s. The observed altitude (Ho) was 38°21.1'. Local Apparent Noon (LAN) occurred at 1138 zone time. The observed altitude (Ho) was 45°35.0'. What was the longitude of your 1200 zone time running fix?	163°38.8'W	163°34.0'W	163°30.2'W	163°26.0'W
5	977	D	On 8 February , your 0800 zone time (ZT) position was LAT 28°55.0'S, LONG 52°27.0'W. Your vessel was steaming on course 036°T at a speed of 19.0 knots. An observation of the Sun's lower limb was made at 0938 ZT. The chronometer read 12h 37m 23s and was slow 01m 24s. The observed altitude (Ho) was 45°29.2'. Local Apparent Noon (LAN) occurred at 1240 ZT. The observed altitude (Ho) was 77°10.5'. What was the longitude of your 1200 ZT running fix?	51°29.6'W	51°31.4'W	51°33.1'W	51°35.4'W

5	978	C	<p>On 11 November , your 0730 zone time position was LAT 19°58.0'N, LONG 143°54.0'W. Your vessel was steaming on course 084°T at a speed of 15.0 knots. An observation of the Sun's lower limb was made at 0931 ZT. The chronometer read 07h 29m 22s and was slow 02m 22s. The observed altitude (Ho) was 44°17.6'. LAN occurred at 1125 zone time (ZD +10). The observed altitude (Ho) was 52°17.4'. What was the longitude of your 1200 zone time running fix?</p>	142°34.7'W	142°37.1'W	142°40.2'W	142°44.2'W
5	980	B	<p>On 29 April , your 0530 zone time position was LAT 23°04.0'S, LONG 162°12.0'E. Your vessel was steaming on course 120°T at a speed of 9.0 knots. An observation of the Sun's upper limb was made at 0830 ZT. The chronometer read 09h 27m 32s and was slow 02m 24s. The observed altitude (Ho) was 24°58.0'. LAN occurred at 1205 zone time. The observed altitude (Ho) was 52°04.0'. What was the longitude of your 1200 zone time running fix?</p>	LONG 163°02.1'E	LONG 163°06.0'E	LONG 163°09.5'E	LONG 163°11.3'E
5	981	C	<p>On 20 September , your 0730 zone time position was LAT 28°58.0'N, LONG 152°26.0'W. Your vessel was steaming on course 225°T at a speed of 19.0 knots. An observation of the Sun's lower limb was made at 0931 ZT. The chronometer read 07h 29m 20s and was slow 02m 22s. The observed altitude (Ho) was 44°14.4'. LAN occurred at 1206 zone time. The observed altitude (Ho) was 62°49.5'. What was the longitude of your 1200 zone time running fix?</p>	LONG 153°32.5'W	LONG 153°27.2'W	LONG 153°23.5'W	LONG 153°20.0'W

5	982	C	<p>On 15 August , your 0512 zone time position was LAT 29°18.0'N, LONG 57°24.0'W. Your vessel was steaming on course 262°T at a speed of 20.0 knots. An observation of the Sun's lower limb was made at 0824 ZT. The chronometer read 00h 22m 24s and was slow 01m 34s. The observed altitude (Ho) was 38°16.7'. LAN occurred at 1204 zone time. The observed altitude (Ho) was 74°58.0'. What was the longitude of your 1204 zone time running fix?</p>	LONG 59°52.0'W	LONG 59°54.0'W	LONG 59°58.5'W	LONG 60°02.0'W	
5	983	C	<p>On 17 January , your 0730 zone time position was LAT 22°26.0'N, LONG 152°17.0'E. Your vessel was steaming on course 136°T at a speed of 17.0 knots. An observation of the Sun's lower limb was made at 1015 ZT. The chronometer read 00h 13m 23s and was slow 01m 49s. The observed altitude (Ho) was 40°25.7'. LAN occurred at 1222 zone time. The observed altitude (Ho) was 47°48.1'. What was the longitude of your 1200 zone time running fix?</p>	LONG 153°04.2'E	LONG 153°08.3'E	LONG 153°13.1'E	LONG 153°18.6'E	
5	986	C	<p>At 0900 zone time, on 23 September , your DR position is LAT 28°48.0'N, LONG 153°11.5'W. You are steering course 257°T at a speed of 18.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1020 running fix?</p>	28°43.3'N, 153°32.1'W	28°46.4'N, 153°34.6'W	28°49.1'N, 153°37.0'W	28°52.8'N, 153°30.6'W	NP-0001
5	987	A	<p>On 17 January , your 0730 zone time fix gives you a position of LAT 22°26.0'S, LONG 152°17.0'E. Your vessel is steaming on a course of 116°T at a speed of 17 knots. An observation of the Sun's lower limb is made at 1015 zone time. The chronometer reads 00h 13m 23s, and the chronometer error is 01m 49s slow. The observed altitude (Ho) is 66°02.1'. LAN occurs at 1152 zone time and a meridian altitude of the Sun's lower limb is made. The observed altitude (Ho) is 87°54.2'. Determine the vessel's 1200 zone time position.</p>	LAT 22°53.8'S, LONG 153°25.6'E	LAT 22°53.8'S, LONG 153°28.8'E	LAT 22°56.3'S, LONG 153°25.6'E	LAT 22°56.3'S, LONG 153°28.8'E	

5	988	A	<p>On 29 June , your 0800 zone time fix gives you a position of LAT 26°16.0'S, LONG 61°04.0'E. Your vessel is steaming a course of 079°T at a speed of 15.5 knots. An observation of the Sun's upper limb is made at 0905 zone time, and the observed altitude (Ho) is 25°20.1'. The chronometer reads 05h 08m 12s, and the chronometer error is 02m 27s fast. Local apparent noon occurs at 1154 zone time, and a meridian altitude of the Sun's lower limb is made. The observed altitude (Ho) for this sight is 40°44.2'.</p> <p>Determine the vessel's 1200 zone time position.</p>	LAT 26°02.0'S, LONG 62°05.0'E	LAT 26°02.0'S, LONG 62°23.2'E	LAT 26°05.1'S, LONG 62°06.3'E	LAT 25°56.0'S, LONG 62°03.0'E
5	989	C	<p>On 2 April , your 0830 zone time fix gives you a position of LAT 20°16.0'S, LONG 004°12.0'E. Your vessel is steaming a course of 143°T at a speed of 18.0 knots. An observation of the Sun's upper limb is made at 0903 zone time, and the observed altitude (Ho) is 42°39.6'. The chronometer reads 09h 05m 40s, and the chronometer error is 02m 15s fast. Local apparent noon occurs at 1145 zone time, and a meridian altitude of the Sun's lower limb is made.</p> <p>The observed altitude (Ho) for this sight is 63°46.2'.</p> <p>Determine the vessel's 1200 zone time position.</p>	LAT 21°10.1'S, LONG 004°53.9'E	LAT 21°14.0'S, LONG 004°55.0'E	LAT 21°18.0'S, LONG 005°00.5'E	LAT 22°42.0'S, LONG 004°57.0'E
5	990	B	<p>On 24 March , your 0800 zone time fix gives you a position of LAT 22°16.0'N, LONG 31°45.0'W. Your vessel is steaming a course of 285°T at a speed of 16.5 knots. An observation of the Sun's upper limb is made at 0938 zone time, and the observed altitude (Ho) is 46°32.2'. The chronometer reads 11h 41m 01s, and the chronometer error is 02m 50s fast. Local apparent noon occurs at 1214 zone time, and a meridian altitude of the Sun's lower limb is made. The observed altitude (Ho) for this sight is 68°55.8'.</p> <p>Determine the vessel's 1200 zone time position.</p>	LAT 22°35.0'N, LONG 30°29.0'W	LAT 22°35.0'N, LONG 32°51.0'W	LAT 22°36.0'N, LONG 32°10.5'W	LAT 22°36.0'N, LONG 32°55.2'W

5	992	A	At 0100 zone time, on 23 September , your DR position is LAT 24°25.0'N, LONG 83°00.0'W. You are steering course 315°T. The speed over the ground is 10.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1100 running fix?	LAT 25°35.3'N, LONG 84°17.0'W	LAT 25°42.6'N, LONG 84°18.7'W	LAT 25°30.4'N, LONG 84°28.6'W	LAT 25°28.3'N, LONG 84°34.3'W	NP-0002
5	993	A	Your 0745 ZT, 15 July , position is LAT 29°04.0'N, LONG 71°17.5'W. You are on course 165°T, and your speed is 8.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1130 running fix?	LAT 28°35.0'N, LONG 71°08.5'W	LAT 28°39.8'N, LONG 71°04.0'W	LAT 28°40.5'N, LONG 71°13.0'W	LAT 28°43.3'N, LONG 71°02.5'W	NP-0003
5	994	C	At 0600 zone time, on 16 March , your DR position is LAT 20°10.0'N, LONG 81°30.0'W. You are steering course 300°T. The speed over the ground is 10 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1130 running fix?	LAT 20°28.5'N, LONG 82°12.6'W	LAT 20°32.0'N, LONG 82°16.4'W	LAT 20°39.0'N, LONG 82°22.9'W	LAT 20°42.5'N, LONG 82°26.2'W	NP-0004
5	996	D	On 30 August your 0554 zone time (ZT) position was LAT 25°39.0'S, LONG 31°51.0'E. Your vessel was steaming on course 325°T at a speed of 15.0 knots. An observation of the Sun's lower limb was made at 0836 ZT. The chronometer read 06h 38m 36s and was fast 02m 24s. The observed altitude (Ho) was 30°49.2'. LAN occurred at 1157 ZT. The observed altitude (Ho) was 56°40.0'. What was the longitude of your 1157 ZT running fix?	30°59.8'E	30°57.6'E	30°55.9'E	30°52.5'E	
5	997	D	On 20 November , your 0612 zone time (ZT) position was LAT 25°38.0'N, LONG 166°54.0'W. Your vessel was steaming on course 126°T at a speed of 20.0 knots. An observation of the Sun's lower limb was made at 0854 ZT. The chronometer read 07h 51m 14s and was slow 02m 52s. The observed altitude (Ho) was 27°58.3'. LAN occurred at 1147 ZT. The observed altitude (Ho) was 45°35.0'. What was the longitude of your 1147 ZT running fix?	165°20.2'W	165°18.4'W	165°15.8'W	165°12.5'W	

5	998	C	<p>On 23 May , your 0628 zone time position was LAT 28°18.0'S, LONG 102°42.0'E. Your vessel was steaming on course 040°T at a speed of 20.0 knots. An observation of the Sun's lower limb was made at 0758 ZT. The chronometer read 01h 02m 06s and was fast 04m 04s. The observed altitude (Ho) was 13°16.7'. LAN occurred at 1201 zone time. The observed altitude (Ho) was 42°32.0'. What was the longitude of your 1201 zone time running fix?</p>	103°57.9'E	104°00.4'E	104°03.5'E	104°06.3'E												
5	999	B	<p>On 16 February , your 0640 zone time (ZT) position was LAT 23°46.0'N, LONG 156°24.0'W. Your vessel was steaming on course 222°T at a speed of 18.0 knots. An observation of the Sun's lower limb was made at 0910 ZT. The chronometer read 07h 08m 06s and was slow 01m 56s. The observed altitude (Ho) was 27°15.8'. LAN occurred at 1245 ZT (ZD +10). The observed altitude (Ho) was 55°25.3'. What was the longitude of your 1245 ZT running fix?</p>	157°37.2'W	157°42.0'W	157°45.7'W	157°47.2'W												
5	1000	D	<p>On 18 May , your 1030 ZT DR position is LAT 18°30'N, LONG 62°31'W. You are on course 286°T, speed 24 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1204</td> <td>61°54.6'</td> <td>N 19°37.6'</td> <td>88°39.7'</td> </tr> <tr> <td>1210</td> <td>63°24.6'</td> <td>N 19°37.7'</td> <td>88°59.2'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1204	61°54.6'	N 19°37.6'	88°39.7'	1210	63°24.6'	N 19°37.7'	88°59.2'	LAT 18°33.6'N, LONG 62°54.3'W	LAT 18°35.2'N, LONG 62°49.7'W	LAT 18°38.7'N, LONG 62°59.2'W	LAT 18°41.1'N, LONG 62°53.9'W
ZONE TIME	GHA	DECLINATION	Ho																
1204	61°54.6'	N 19°37.6'	88°39.7'																
1210	63°24.6'	N 19°37.7'	88°59.2'																
5	1001	C	<p>On 26 July , your 1030 ZT DR position is LAT 18°25'N, LONG 51°15'W. You are on course 231°T, speed 15 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1228</td> <td>50°23.5'</td> <td>N 19°21.9'</td> <td>88°14.3'</td> </tr> <tr> <td>1236</td> <td>52°23.5'</td> <td>N 19°21.8'</td> <td>88°29.0'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1228	50°23.5'	N 19°21.9'	88°14.3'	1236	52°23.5'	N 19°21.8'	88°29.0'	LAT 18°00.9'N, LONG 51°31.9'W	LAT 18°03.5'N, LONG 51°36.2'W	LAT 18°07.2'N, LONG 51°30.4'W	LAT 18°10.6'N, LONG 51°25.1'W
ZONE TIME	GHA	DECLINATION	Ho																
1228	50°23.5'	N 19°21.9'	88°14.3'																
1236	52°23.5'	N 19°21.8'	88°29.0'																

5	1002	A	<p>On 13 November , your 1030 ZT DR position is LAT 19°03'S, LONG 6°34'E. You are on course 164°T, speed 12 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1112</td> <td>351°55.4'</td> <td>S 18°00.4'</td> <td>88°08.0'</td> </tr> <tr> <td>1121</td> <td>354°10.4'</td> <td>S 18°00.5'</td> <td>88°33.9'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1112	351°55.4'	S 18°00.4'	88°08.0'	1121	354°10.4'	S 18°00.5'	88°33.9'	LAT 19°22.3'S, LONG 6°37.8'E	LAT 19°20.1'S, LONG 6°41.4'E	LAT 19°17.6'S, LONG 6°39.2'E	LAT 19°15.8'S, LONG 6°36.8'E	
ZONE TIME	GHA	DECLINATION	Ho																	
1112	351°55.4'	S 18°00.4'	88°08.0'																	
1121	354°10.4'	S 18°00.5'	88°33.9'																	
5	1003	C	<p>On 15 November , your 1030 ZT DR position is LAT 17°25'S, LONG 42°12'W. You are on course 059°T, speed 22 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1128</td> <td>40°50.4'</td> <td>S 18°33.6'</td> <td>88°18.4'</td> </tr> <tr> <td>1133</td> <td>42°05.4'</td> <td>S 18°33.6'</td> <td>88°37.7'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1128	40°50.4'	S 18°33.6'	88°18.4'	1133	42°05.4'	S 18°33.6'	88°37.7'	LAT 17°00.0'S, LONG 41°45.8'W	LAT 17°02.1'S, LONG 41°48.4'W	LAT 17°06.8'S, LONG 41°44.3'W	LAT 17°08.9'S, LONG 41°40.4'W	
ZONE TIME	GHA	DECLINATION	Ho																	
1128	40°50.4'	S 18°33.6'	88°18.4'																	
1133	42°05.4'	S 18°33.6'	88°37.7'																	
5	1004	A	<p>On 15 November , your 1030 ZT DR position is LAT 19°41'S, LONG 41°37'W. You are on course 239°T, speed 22 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1128</td> <td>40°50.4'</td> <td>S 18°33.6'</td> <td>88°18.4'</td> </tr> <tr> <td>1133</td> <td>42°05.4'</td> <td>S 18°33.6'</td> <td>88°37.7'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1128	40°50.4'	S 18°33.6'	88°18.4'	1133	42°05.4'	S 18°33.6'	88°37.7'	LAT 20°01.0'S, LONG 42°05.9'W	LAT 20°04.3'S, LONG 42°09.8'W	LAT 20°06.7'S, LONG 42°06.1'W	LAT 20°08.1'S, LONG 42°00.7'W	
ZONE TIME	GHA	DECLINATION	Ho																	
1128	40°50.4'	S 18°33.6'	88°18.4'																	
1133	42°05.4'	S 18°33.6'	88°37.7'																	

5	1005	A	<p>On 18 May , your 1030 ZT DR position is LAT 20°41'N, LONG 63°32'W. You are on course 106°T, speed 24 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1204</td> <td>61°54.6'</td> <td>N 19°37.6'</td> <td>88°39.7'</td> </tr> <tr> <td>1210</td> <td>63°24.6'</td> <td>N 19°37.7'</td> <td>88°59.2'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1204	61°54.6'	N 19°37.6'	88°39.7'	1210	63°24.6'	N 19°37.7'	88°59.2'	LAT 20°32.6'N, LONG 62°57.5'W	LAT 20°30.1'N, LONG 63°01.9'W	LAT 20°27.6'N, LONG 62°52.4'W	LAT 20°25.2'N, LONG 62°56.9'W
ZONE TIME	GHA	DECLINATION	Ho																
1204	61°54.6'	N 19°37.6'	88°39.7'																
1210	63°24.6'	N 19°37.7'	88°59.2'																
5	1006	B	<p>On 30 July , your 1030 ZT DR position is LAT 19°02'N, LONG 138°12'W. You are on course 309°T, speed 24 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1220</td> <td>138°25.0'</td> <td>N 18°22.3'</td> <td>88°43.3'</td> </tr> <tr> <td>1226</td> <td>139°55.0'</td> <td>N 18°22.2'</td> <td>88°24.0'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1220	138°25.0'	N 18°22.3'	88°43.3'	1226	139°55.0'	N 18°22.2'	88°24.0'	LAT 19°28.0'N, LONG 138°35.2'W	LAT 19°29.7'N, LONG 138°42.0'W	LAT 19°32.6'N, LONG 138°49.4'W	LAT 19°34.5'N, LONG 138°40.9'W
ZONE TIME	GHA	DECLINATION	Ho																
1220	138°25.0'	N 18°22.3'	88°43.3'																
1226	139°55.0'	N 18°22.2'	88°24.0'																
5	1007	D	<p>On 30 July , your 1030 ZT DR position is LAT 17°46'N, LONG 139°30'W. You are on course 129°T, speed 24 knots. Determine your 1200 position using the following observations of the Sun.</p> <table border="1"> <thead> <tr> <th>ZONE TIME</th> <th>GHA</th> <th>DECLINATION</th> <th>Ho</th> </tr> </thead> <tbody> <tr> <td>1220</td> <td>138°25.0'</td> <td>N 18°22.3'</td> <td>88°43.3'</td> </tr> <tr> <td>1226</td> <td>139°55.0'</td> <td>N 18°22.2'</td> <td>88°24.0'</td> </tr> </tbody> </table>	ZONE TIME	GHA	DECLINATION	Ho	1220	138°25.0'	N 18°22.3'	88°43.3'	1226	139°55.0'	N 18°22.2'	88°24.0'	LAT 17°24.0'N, LONG 138°59.8'W	LAT 17°21.6'N, LONG 138°56.2'W	LAT 17°18.7'N, LONG 139°07.6'W	LAT 17°15.1'N, LONG 139°00.0'W
ZONE TIME	GHA	DECLINATION	Ho																
1220	138°25.0'	N 18°22.3'	88°43.3'																
1226	139°55.0'	N 18°22.2'	88°24.0'																
5	1008	A	<p>On 27 March , your 0730 zone time position is LAT 28°16'N, LONG 56°37'W. Your vessel is on course 158°T at a speed of 15.0 knots. An observation of the Sun's lower limb is made at 0915 zone time. The chronometer reads 01h 14m 11s, and the chronometer error is 00m 53s slow. The observed altitude (Ho) is 45°10.7'. LAN occurs at 1150 zone time, and a meridian altitude of the Sun's lower limb is made. The observed altitude (Ho) is 65°32.8'. Determine the vessel's 1200 zone time position.</p>	LAT 27°08.8'N, LONG 56°04.2'W	LAT 27°08.8'N, LONG 56°10.3'W	LAT 27°11.6'N, LONG 56°04.2'W	LAT 27°11.6'N, LONG 56°10.3'W												

5	1009	C	<p>On 22 February , your 0800 zone time position is LAT 24°16'S, LONG 95°37'E. Your vessel is on course 126°T at a speed of 14 knots. An observation of the Sun's lower limb is made at 0945 zone time. The chronometer reads 03h 47m 22s, and the chronometer error is 02m 37s fast. The observed altitude (Ho) is 57°02.1'. LAN occurs at 1148 zone time, and a meridian altitude of the Sun's lower limb is made. The observed meridian altitude (Ho) is 75°22.3'. Determine the vessel's 1200 zone time position.</p>	LAT 24°49.3'S, LONG 96°24.0'E	LAT 24°49.3'S, LONG 96°27.2'E	LAT 24°52.2'S, LONG 96°24.0'E	LAT 24°52.2'S, LONG 96°27.2'E	
5	1010	D	<p>On 8 February , your 0800 zone time position is LAT 21°55'S, LONG 52°27'W. Your vessel is on course 056°T at a speed of 17.5 knots. An observation of the Sun's lower limb is made at 0938 zone time, and the observed altitude (Ho) is 46°06.5'. The chronometer reads 12h 37m 23s, and the chronometer error is 1m 24s slow. LAN occurs at 1243 zone time, and a meridian altitude of the Sun's lower limb is made. The observed altitude (Ho) for this sight is 83°56.1'. Determine the vessel's 1200 zone time position.</p>	LAT 20°57.0'S, LONG 51°21.5'W	LAT 20°58.0'S, LONG 51°25.5'W	LAT 21°04.0'S, LONG 51°12.0'W	LAT 21°04.0'S, LONG 51°21.5'W	
5	1011	D	<p>On 6 December , your 0800 zone time DR position was LAT 21°48.0'N, LONG 124°30.0'E. Your vessel was steaming on course 045°T at a speed of 20.0 knots. An observation of the Sun's lower limb was made at 1012 ZT. The chronometer read 02h 10m 42s and was slow 01m 02s. The observed altitude (Ho) was 41°17.1'. LAN occurred at 1129 zone time. The observed altitude (Ho) was 44°53.7'. What was the longitude of your 1200 zone time running fix?</p>	LONG 125°25.0'E	LONG 125°28.9'E	LONG 125°32.5'E	LONG 125°35.2'E	
5	1021	B	<p>On 30 March , your 0145 DR position is LAT 29°30'S, LONG 122°45'E. You are on course 055°T at a speed of 22 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?</p>	LAT 28°24.6'S, LONG 124°21.4'E	LAT 28°39.9'S, LONG 124°18.6'E	LAT 28°41.5'S, LONG 124°41.5'E	LAT 29°20.1'S, LONG 123°41.0'E	NP-0005

5	1076	A	On 25 Mar , your 0500 ZT DR position is LAT 28°14.0'S, LONG 93°17.0'E. You are on course 291°T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0550 running fix?	LAT 28°15.9'S, LONG 92°56.9'E	LAT 28°19.3'S, LONG 92°59.0'E	LAT 28°06.4'S, LONG 93°02.5'E	LAT 27°53.2'S, LONG 93°17.6'E	NP-0006
5	1078	B	On 6 April , your 1830 ZT DR position is LAT 26°33.0'N, LONG 64°31.0'W. You are on course 082°T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?	LAT 26°49.5'N, LONG 64°06.5'W	LAT 26°32.5'N, LONG 64°27.1'W	LAT 26°31.2'N, LONG 64°32.1'W	LAT 26°28.7'N, LONG 64°32.1'W	NP-0008
5	1079	B	On 12 Dec. , your 1830 ZT DR position is LAT 24°16.0'S, LONG 41°18.0'W. You are on course 235°T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1930 running fix?	LAT 24°12.5'S, LONG 41°10.9'W	LAT 24°16.9'S, LONG 41°18.2'W	LAT 24°25.2'S, LONG 41°39.9'W	LAT 27°46.9'S, LONG 41°31.2'W	NP-0009
5	1080	C	On 20 Feb. , your 0530 ZT DR position is LAT 24°15.0'N, LONG 137°33.0'W. You are on course 033°T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 24°23.3'N, LONG 137°35.5'W	LAT 24°26.0'N, LONG 137°25.8'W	LAT 24°27.5'N, LONG 137°31.8'W	LAT 24°30.1'N, LONG 137°24.5'W	NP-0010
5	1081	D	On 14 Sept , your 1810 ZT DR position is LAT 27°12.0'S, LONG 71°10.0'E. You are on course 060°T at a speed of 15.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1822 running fix?	LAT 27°04.5'S, LONG 71°22.4'E	LAT 27°07.5'S, LONG 71°18.6'E	LAT 27°09.2'S, LONG 71°11.3'E	LAT 27°11.0'S, LONG 71°14.5'E	NP-0011
5	1082	C	On 20 Nov. , your 1030 ZT DR position is LAT 27°16.0'N, LONG 157°18.6'E. You are on course 060°T at a speed of 20 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1200 running fix?	LAT 27°16.8'N, LONG 157°30.5'E	LAT 27°22.6'N, LONG 157°37.8'E	LAT 27°29.7'N, LONG 157°43.0'E	LAT 27°33.4'N, LONG 157°48.2'E	NP-0012
5	1084	D	On 4 Dec. , your 1500 ZT DR position is LAT 18°06.0'N, LONG 75°42.0'W. You are on course 020°T at a speed of 15.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1548 running fix?	LAT 18°10.3'N, LONG 75°34.5'W	LAT 18°12.6'N, LONG 75°42.0'W	LAT 18°14.0'N, LONG 75°40.0'W	LAT 18°17.3'N, LONG 75°37.7'W	NP-0014

5	1086	A	On 15 July , your vessel is enroute from Portland, OR, to Singapore, Malaysia. You are steering course 243°T and making a speed of 16 knots. Your 1845 zone time DR is LAT 27°42.0'N, LONG 167°02.0'E. You observed 3 celestial bodies. Determine the latitude and longitude of your 1945 running fix?	LAT 27°31.1'N, LONG 166°43.0'E	LAT 27°38.5'N, LONG 166°45.1'E	LAT 27°45.3'N, LONG 166°32.2'E	LAT 28°18.1'N, LONG 166°39.8'E	NP-0016
5	1087	D	On 15 August , your vessel is enroute from Bombay, India, to San Francisco, CA. You are steering course 020°T and making a speed of 20.0 knots. Your 1830 zone time DR is LAT 26°13.0'N, LONG 135°18.0'W. You observed 3 celestial bodies. Determine the latitude and longitude of your 1935 running fix?	LAT 26°15.9'N, LONG 135°03.6'W	LAT 26°35.3'N, LONG 135°24.8'W	LAT 26°40.5'N, LONG 135°21.6'W	LAT 26°48.1'N, LONG 135°20.7'W	NP-0017
5	1088	A	On 9 June , your 0000 DR position is LAT 26°14.0'S, LONG 176°38.1'E. You are on course 223°T, speed 17.8 knots. You observed 4 celestial bodies. Determine the latitude and longitude of your 0630 running fix?	LAT 27°44.7'S, LONG 174°57.1'E	LAT 27°46.2'S, LONG 175°03.0'E	LAT 27°41.2'S, LONG 175°01.2'E	LAT 27°38.5'S, LONG 175°06.3'E	NP-0018
5	1089	D	At 1830 zone time, on 6 April , your DR position is LAT 26°33.0'N, LONG 64°31.0'W. You are steering course 082°T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?	LAT 26°20.1'N, LONG 64°19.4'W	LAT 26°23.7'N, LONG 64°29.3'W	LAT 26°28.4'N, LONG 64°32.1'W	LAT 26°32.5'N, LONG 64°27.1'W	NP-0019
5	1090	B	At 0450 zone time, on 25 June , your DR position is LAT 21°26.0'N, LONG 160°24.5'W. You are steering course 100°T at a speed of 10 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0514 running fix?	LAT 21°27.0'N, LONG 160°17.0'W	LAT 21°25.0'N, LONG 160°18.0'W	LAT 21°22.0'N, LONG 160°17.0'W	LAT 21°20.0'N, LONG 160°15.5'W	NP-0020
5	1091	B	On 10 August , your 0430 ZT position is LAT 29°56.7'S, LONG 139°11.0'E. Your course is 321°T, speed 18.2 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0500 running fix?	LAT 29°46.0'S, LONG 138°54.0'E	LAT 29°49.2'S, LONG 138°57.0'E	LAT 29°56.0'S, LONG 139°03.8'E	LAT 30°07.5'S, LONG 138°55.2'E	NP-0021
5	1092	B	On 3 April , your vessel's 1400 ZT DR position is LAT 20°08.0'N, LONG 147°45.0'W. You are steering course 023°T at 18.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?	LAT 21°39.8'N, LONG 146°59.7'W	LAT 21°40.0'N, LONG 147°03.2'W	LAT 21°41.8'N, LONG 147°05.5'W	LAT 21°41.8'N, LONG 147°01.5'W	NP-0022

5	1093	A	On 22 Nov. , your vessel is enroute from Accra, Ghana to Montevideo, Uruguay. You are on course 240°T and making a speed of 15.0 knots. Your 1129 DR position is LAT 28°25.0'S, LONG 42°40.0'W. You observed 3 celestial bodies. Determine the latitude and longitude of your 1137 running fix?	LAT 28°27.0'S, LONG 42°38.0'W	LAT 28°25.2'S, LONG 42°40.0'W	LAT 28°25.0'S, LONG 42°36.0'W	LAT 28°23.4'S, LONG 42°42.0'W	NP-0023
5	1094	D	On 12 Oct. , your vessel is on course 081°T, speed 20 knots. Your 1800 zone time DR position is LAT 26°11.0'S, LONG 77°18.0'E. You observed 3 celestial bodies. Determine the latitude and longitude of your 1835 running fix?	LAT 26°05.5'S, LONG 77°14.5'E	LAT 26°07.5'S, LONG 77°34.0'E	LAT 26°09.0'S, LONG 77°27.5'E	LAT 26°12.0'S, LONG 77°31.0'E	NP-0024
5	1095	A	On 25 Oct. , your 0430 ZT DR position is LAT 24°48'N, LONG 65°31'W. Your vessel is on course 030°T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0455 running fix?	LAT 24°53'N, LONG 65°28'W	LAT 24°53'N, LONG 65°12'W	LAT 24°54'N, LONG 65°17'W	LAT 25°03'N, LONG 65°18'W	NP-0025
5	1096	C	On 24 October , your 0100 DR position is LAT 27°42'N, LONG 158°35'E. You are on course 085°T at a speed of 12 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0700 running fix?	LAT 27°48.8'N, LONG 160°12.5'E	LAT 27°52.5'N, LONG 160°18.2'E	LAT 27°56.0'N, LONG 159°47.3'E	LAT 27°58.4'N, LONG 159°43.5'E	NP-0026
5	1097	B	On 9 November , your 0400 DR position is LAT 18°24.0'S, LONG 97°36.0'W. You are on course 138°T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 18°15.0'S, LONG 98°52.5'W	LAT 18°45.0'S, LONG 97°06.8'W	LAT 18°52.5'S, LONG 97°10.6'W	LAT 19°15.5'S, LONG 98°08.8'W	NP-0027
5	1098	B	On 19 September , your 0300 zone time DR position is LAT 24°35'N, LONG 88°40'W. You are on course 288°T at a speed of 14 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 24°47.4'N, LONG 89°15.0'W	LAT 24°52.5'N, LONG 89°22.4'W	LAT 24°59.5'N, LONG 89°28.6'W	LAT 25°06.0'N, LONG 90°37.0'W	NP-0028
5	1099	B	On 6 April , your 0300 DR position is LAT 27°42'S, LONG 128°58'W. You are on course 097°T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 27°15.5'S, LONG 128°12.4'W	LAT 27°44.7'S, LONG 127°47.5'W	LAT 27°52.4'S, LONG 127°49.4'W	LAT 28°15.2'S, LONG 128°11.6'W	NP-0029
5	1100	D	Charles Island (LAT 41°11.5'N, LONG 73°03.4'W) is _____.	a high, rocky pinnacle with steep cliffs	a low, sandy island barren of all vegetation	identified by a tall prominent flagpole	low and partly covered by trees	

5	1102	A	On 19 November , your 0200 zone time DR position is LAT 18°41'N, LONG 150°37'E. You are on course 014°T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 19°45.4'N, LONG 150°52.6'E	LAT 19°42.8'N, LONG 150°56.9'E	LAT 19°41.2'N, LONG 150°46.3'E	LAT 19°39.3'N, LONG 150°51.8'E	NP-0031
5	1103	B	On 25 August , your 0300 zone time DR position is LAT 21°28.0'N, LONG 167°48.0'E. You are on course 248°T at a speed of 12 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 20°52.4'N, LONG 167°32.1'E	LAT 20°57.1'N, LONG 167°01.0'E	LAT 20°59.5'N, LONG 166°54.8'E	LAT 21°06.0'N, LONG 167°10.9'E	NP-0032
5	1104	C	On 19 November , your 0200 zone time DR position is LAT 20°29.0'N, LONG 150°21.3'E. You are on course 136°T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 19°30.1'N, LONG 151°06.0'E	LAT 19°31.7'N, LONG 151°04.9'E	LAT 19°33.0'N, LONG 151°10.0'E	LAT 19°35.8'N, LONG 151°13.6'E	NP-0033
5	1105	A	On 28 May , your 0200 DR position is LAT 19°16.5'S , LONG 119°24.0'W. You are on course 107°T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 19°43.0'S, LONG 117°54.0'W	LAT 19°48.2'S, LONG 118°04.5'W	LAT 20°07.5'S, LONG 117°32.0'W	LAT 20°17.1'S, LONG 118°06.0'W	NP-0034
5	1107	D	On 16 April , your 0200 zone time DR position is LAT 17°18'S, LONG 168°46'E. You are on course 236°T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 17°54.9'S, LONG 167°48.7'E	LAT 17°55.6'S, LONG 167°45.1'E	LAT 17°56.8'S, LONG 167°52.4'E	LAT 18°00.4'S, LONG 167°49.2'E	NP-0036
5	1109	A	On 5 May , your 1600 zone time DR position is LAT 17°28'S, LONG 143°39'E. You are on course 316°T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1800 running fix?	LAT 17°05.2'S, LONG 143°11.4'E	LAT 17°07.8'S, LONG 143°17.5'E	LAT 17°08.2'S, LONG 143°07.9'E	LAT 17°09.7'S, LONG 143°10.1'E	NP-0038
5	1110	B	On 19 November , your 0300 zone time DR position is LAT 19°23'N, LONG 151°37'E. You are on course 293°T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?	LAT 19°38.5'N, LONG 150°41.6'E	LAT 19°34.8'N, LONG 150°48.0'E	LAT 19°32.9'N, LONG 150°52.3'E	LAT 19°30.5'N, LONG 150°48.5'E	NP-0039
5	1117	C	What is the length of the trip?	720.8 miles	777.4 miles	897.2 miles	906.3 miles	
5	1118	A	What are the dimensions of the Old River Lock on the Lower Old River (mile 304 AHP)?	1190 X 75 feet	1185 X 84 feet	1190 X 84 feet	1185 X 75 feet	

5	1119	D	At 2142, on January 3, you pass Sebastapol Light (mile 283.3 AHP). At 0137, January 4, you pass Fort Adams Light(311.4 AHP). You have been turning for 9.0 mph. What was the current?	4.2 mph	3.3 mph	2.7 mph	1.8 mph	
5	1120	A	At 0850, 4 January, you pass the Gage at Natchez, MS which reads 26.8 feet. The low water reference plane (LWRP) for Natchez is 6.1 feet. What is the water level in relation to the low water reference plane?	20.7 ft above	20.7 ft below	32.9 ft above	32.9 ft below	
5	1122	C	Which type of daymark will you see as you approach Old Levee Light (mile 385.2 AHP)?	Green diamond	Red square	Green square	Private aid - no daymark	
5	1123	D	What is the vertical clearance of the Vicksburg Highway 80 Bridge when the river level is the same as the Low Water Reference Plane?	128.3 ft	125.6 ft	119.5 ft	116.3 ft	
5	1124	B	The Vicksburg Gage reads 31.9 feet. The high point on your towboat is 43 feet above the water. What is the vertical clearance as you pass under the Vicksburg Highway 80 Bridge?	36.2 feet	41.4 feet	58.0 feet	84.3 feet	
5	1125	A	Where would you find out which buoys, if any, are in place at Concordia Bar crossing (mile 596.0 AHP)?	Local Notice to Mariners	Bulletin board at the Rosedale Gage	Waterways Journal	None of the above	
5	1126	A	What are the dotted lines crossing at mile 529.7 AHP?	submarine cables	power cables	gated dams	workboat crossings	
5	1127	B	You are turning for 6.8 mph and estimate the current at 1.0 mph. What is your speed over the ground?	6.8 mph	7.8 mph	8.8 mph	9.4 mph	
5	1128	D	How far is it to the Hernando Desoto Bridge in Memphis, TN?	980.8 miles	736.6 miles	312.3 miles	218.1 miles	
5	1129	C	Which daymark should you see as you approach French Point Light (mile 915.4 AHP)?	Red diamond	Green square	Red triangle	Green diamond	
5	1130	C	At 1923, on September 21, you pass Bixby Towhead Light (mile 873.7 AHP). What was your average speed since leaving Cairo?	9.2 mph	8.8 mph	8.5 mph	7.2 mph	
5	1131	B	At 1923, you increase speed to make good 9.2 mph. What is the first Gage you will pass after your speed change?	Cottonwood Point	Caruthersville	Fulton	New Madrid	
5	1132	A	Which light will you be passing at 0059, on 22 September, if you make good 9.2 knots?	Obion Bar Lt.	Kate Aubrey Lt.	Trotter Lt.	Quaker Oats Lt.	

5	1133	D	The Helena Gage reads 9.4 feet. The high point on your towboat is 42 feet above water. What is the vertical clearance when you pass under the Helena Highway Bridge?	53.0 feet	62.6 feet	64.2 feet	68.0 feet	
5	1134	B	What company does NOT have a marine facility along the river bank in Helena (mile 661 to 665 AHP)?	Helena Port Terminal, Inc.	Riceland Food Corps..	Quincy Soybean Co.	Texas Eastern Pipeline Co.	
5	1135	C	The low water reference plane (LWRP) for Bayou Sara is 5.25 feet. If the Bayou Sara Gage reads -0.5 feet, what is the water level in relation to the low water reference plane?	4.75 feet above the plane	5.75 feet above the plane	5.75 feet below the plane	4.75 feet below the plane	
5	1136	A	The Arkansas City Yellow Bend revetment on the LMR extends from mile _____.	555.0-549.7 RDB	549.0-548.5 RDB	556.9-554.9 LDB	548.5-546.5 LDB	
5	1137	D	What is the length of the trip?	1195.4 miles	1223.1 miles	1464.8 miles	1520.1 miles	
5	1138	A	After you get underway, what is the first river gage you will pass?	Donaldsonville	Head of Passes	Baton Rouge	Red River Landing	
5	1139	D	You are passing the Bayou Sara Gage which reads 3.9 feet. The low water reference plane for Bayo Sara is 5.25 feet. Which of the following statements is TRUE?	The river level is above the Low Water Reference Plane.	Red Store Landing Revetment is ahead on your starboard side	This gage reading is at a lower elevation than the same reading on the Gage at Head of Passes.	None of the above.	
5	1140	C	At 0921, on 24 May, you are abreast the St. Catherine Bar Lt. (mile 348.6 AHP). If you are turning for 10.0 mph, what was the current since departure?	3.4 mph	2.0 mph	1.7 mph	1.4 mph	
5	1141	A	Which daymark will you see as you approach Natchez Beam Lt. (mile 364.8 AHP)?	Red triangle	White square	Green square	Red diamond	
5	1142	B	At 1132, 24 May, you pass Natchez Beam Lt. (mile 364.8 AHP). What is your ETA off the Memphis Gage if you average 8.0 mph?	2345, 25 May	0947, 26 May	1525, 26 May	2215, 26 May	
5	1143	B	Which town is located at mile 663.5 AHP?	Friers Point	Helena	St. Francis	Rodney	
5	1144	C	What is the brown colored tint shown at Bordeaux Point Dykes (mile 681.0 AHP)?	river gage	fish hatchery	dredge material	levee	
5	1145	D	The Memphis Gage reads 18.4 feet. The high point of your towboat is 48 feet above water. What is the vertical clearance as you pass under the Memphis Highway Bridge?	75.4 feet	66.4 feet	53.8 feet	46.4 feet	
5	1146	D	The Linwood Bend revetment on the LMR extends from mile _____.	828.1-823.1 RDB	831.7-829.4 RDB	845.4-842.5 LDB	841.3-838.7 LDB	

5	1147	C	You have orders to drop off the empties at the fleeting area at Cairo Point and add five loaded tank barges to your tow. If you are turning for 9 mph and estimate the current at 1.5 mph, what is your ETA at Cairo?	2210, 22 June	1741, 22 June	1423, 22 June	1031, 22 June	
5	1148	B	You complete changing out your tow and get underway enroute Ark City Tank Storage (mile 554.0 AHP) to deliver the tank barges. What is the distance you must travel from Cairo Point Light?	202.1 miles	400.7 miles	554.2 miles	605.8 miles	
5	1149	B	As you approach Dean Island Light (mile 754.8 AHP), which type of daymark will be observed at the light?	Green triangle	Green diamond	Green square	Red-and-green banded square	
5	1150	A	The highest point on your towboat is 48 feet above the water, and the Memphis Gage reads +7.5 feet. What is the vertical clearance when you pass under the Hernando Desoto Bridge in Memphis?	53.2 feet	58.1 feet	68.2 feet	96.3 feet	
5	1163	D	What is the mile point of the Fulton Gage?	598 AHP	632 AHP	687 AHP	778 AHP	
5	1164	C	At 2350 on 23 June, you are at mile 610.5 AHP when you see about a mile ahead lights on the water near the left bank. What might you see when you come abreast of these lights?	Privately maintained buoys at a yacht club	Government buoys marking the Hurricane Point dikes	Barges moored at the Dennis Landing Terminal	A pipeline discharging dredge spoil	
5	1165	D	Which of the following statements concerning the buoys on the Mississippi River is TRUE?	The position of river buoys can be determined by consulting the latest Light List - Vol. V.	A preferred channel mark is a lateral mark indicating a channel junction which must always be passed to starboard.	Buoys should be passed as close as possible.	Setting a buoy is the act of placing a buoy on assigned position in the water.	
5	1166	D	At 1032 on 24 June, you pass Carolina Landing Light(mile 508.8 AHP). What has been the average current since 2350, 23 June, if you have been making turns for 9.0 mph?	8.5 mph	5.7 mph	1.5 mph	0.5 mph	
5	1167	C	Where can scheduled broadcast times of river stages be found?	Sailing Directions	List of Lights	Light List	Coast Pilot	
5	1168	A	Which company does NOT have a marine facility in Rosedale harbor (mile 585 AHP)?	T.L. James	Rosedale-Boliver County Port Commission	Cives Steel Company	Sanders Elevator Corp	

5	1175	A	On 12 February , your 0900 zone time DR position is LAT 16°43.0'N, LONG 51°42.0'W. Your vessel is on course 093°T at a speed of 18.5 knots. What is the zone time of local apparent noon (LAN)?	1237	1233	1230	1226
5	1176	C	On 24 January , your 0700 zone time DR position is LAT 22°25.0'N, LONG 46°10.0'W. Your vessel is on course 110°T at a speed of 12.0 knots. What is the zone time of local apparent noon (LAN)?	1203	1208	1212	1215
5	1177	D	On 2 April , your 0900 zone time DR position is LAT 28°04.0'S, LONG 94°14.0'E. Your vessel is on course 316°T at a speed of 18.5 knots. What is the zone time of local apparent noon (LAN)?	1138	1143	1146	1149
5	1178	A	On 27 August , your 0900 zone time DR position is LAT 24°25.0'N, LONG 94°20.0'W. Your vessel is on course 071°T at a speed of 20.0 knots. What is the zone time of local apparent noon (LAN)?	1214	1208	1206	1158
5	1179	A	On 26 September , your 0830 zone time DR position is LAT 26°04.0'N, LONG 129°16.0'W. Your vessel is on course 119°T at a speed of 20.0 knots. What is the zone time of local apparent noon (LAN)?	1124	1127	1130	1133
5	1180	C	On 3 May , your 1009 zone time DR position is LAT 30°01.0'N, LONG 123°15.0'W. Your vessel is on course 330°T at a speed of 8.6 knots. What is the zone time of local apparent noon (LAN)?	1206	1208	1211	1214
5	1181	D	On 4 January , your 0800 zone time DR position is LAT 25°25.0 S, LONG 16°09.0'W. Your vessel is on course 290°T at a speed of 13.5 knots. What is the zone time of local apparent noon (LAN)?	1157	1205	1209	1213
5	1183	C	On 25 June , your 0900 zone time DR position is LAT 24°10.0'S, LONG 148°30.0'W. Your vessel is on a course of 230°T at a speed of 18.0 knots. What is the zone time of local apparent noon (LAN)?	1154	1156	1200	1204

5	1184	A	On 8 April , your 0830 zone time DR position is LAT 22°49.0'N, LONG 84°37.0'W. Your vessel is on course 228° T at a speed of 19.0 knots. What is the zone time of local apparent noon (LAN)?	1144	1147	1150	1154
5	1185	C	On 31 January , your 0920 zone time DR position is LAT 24°16.0'S, LONG 151°33.0'E. Your vessel is on course 258°T at a speed of 18.5 knots. What is the zone time of local apparent noon (LAN)?	1202	1207	1211	1215
5	1186	C	On 16 November , your 0800 zone time DR position is LAT 25°11.0'N, LONG 117°41.0'W. Your vessel is on course 252°T at a speed of 14.5 knots. What is the zone time of local apparent noon (LAN)?	1131	1135	1139	1144
5	1187	C	On 17 March , your 0800 zone time DR position is LAT 21°27.0'N, LONG 65°25.0'W. Your vessel is on course 105°T at a speed of 17.5 knots. What is the zone time of local apparent noon (LAN)?	1210	1218	1225	1231
5	1188	A	On 9 February , your 0830 zone time DR position is LAT 22°19.0'N, LONG 64°37.0'E. Your vessel is on course 128° T at a speed of 19.0 knots. What is the zone time of local apparent noon (LAN)?	1152	1156	1201	1205
5	1189	D	On 7 February , your 0800 zone time DR position is LAT 22°16.0'N, LONG 92°26.0'W. Your vessel is on course 270° T at a speed of 20.0 knots. What is the zone time of local apparent noon (LAN)?	1218	1222	1226	1230
5	1190	B	On 12 February , your 0930 zone time DR position is LAT 25°20.0'N, LONG 30°40.0'W. Your vessel is on course 135° T at a speed of 11.2 knots. What is the zone time of local apparent noon (LAN)?	1210	1215	1220	1224
5	1191	D	On 14 October , your 0800 ZT DR position is LAT 28°22.0'N, LONG 161°17.0'E. Your vessel is on course 116°T at a speed of 17.5 knots. What is the ZT of local apparent noon (LAN)?	1142	1148	1152	1156

5	1192	D	On 3 October , your 0830 ZT position is LAT 26°15.0'S, LONG 73°16.0'E. Your vessel is on course 280°T at a speed of 19.0 knots. What is the ZT of local apparent noon (LAN)?	1151	1154	1158	1201
5	1193	C	On 26 September , your 0830 zone time DR position is LAT 23°04.0'N, LONG 129°16.0'E. Your vessel is on course 119°T at a speed of 20.0 knots. What is the zone time of local apparent noon (LAN)?	1158	1205	1210	1214
5	1194	A	On 16 January your 0930 ZT DR position is LAT 26°07.0'S, LONG 51°43.0'E. Your vessel is on course 238°T at a speed of 17.0 knots. What is the ZT of local apparent noon (LAN)?	1145	1148	1152	1156
5	1195	C	On 23 June , your 0900 zone time DR position is LAT 21°26.0'N, LONG 137°46.0'W. Your vessel is on course 059°T at a speed of 19.0 knots. What is the zone time of local apparent noon (LAN)?	1159	1205	1210	1214
5	1196	C	On 14 October your 0800 zone time (ZT) dead reckoning position is LAT 28°22.0'N, LONG 161°17.0'E. Your vessel is on course 116°T at a speed of 17.5 knots. What is the ZT of local apparent noon (LAN)?	1148	1151	1156	1202
5	1197	B	On 16 November , your 0800 ZT DR position is LAT 25°11.0'N, LONG 117°41.0'W. Your vessel is on a course of 252°T at a speed of 14.5 knots. What is the ZT of local apparent noon (LAN)?	1135	1139	1143	1146
5	1198	A	On 3 October , your 0830 zone time DR position is LAT 26°15.0'S, LONG 73°16.0'E. Your vessel is on course 280°T at a speed of 19.0 knots. What is the zone time of local apparent noon (LAN)?	1201	1158	1155	1152
5	1199	B	On 20 June , your 0800 zone time DR position is LAT 21°02.0'N, LONG 152°50.0'E. Your vessel is on course 265°T at a speed of 15.0 knots. What is the zone time of local apparent noon (LAN)?	1149	1154	1159	1203
5	1200	A	On 26 September , your 0830 DR position is LAT 26°04.0'N, LONG 129°16.0'W. Your vessel is on a course of 119°T at a speed of 20.0 knots. What is the zone time of local apparent noon (LAN)?	1124	1128	1142	1146

5	1201	A	On 10 October , your 0930 zone time position is LAT 25°00.0'S, LONG 164°38.6'W. Your vessel is on course 180°T at a speed to 10.0 knots. What is the zone time of local apparent noon (LAN)?	1145	1151	1203	1206
5	1202	A	Your 0830 DR position is LAT 27°33'S, LONG 79°17'E. Your vessel is on a course of 066°T, at a speed of 19.5 knots. Determine the time of LAN on 10 December .	1131	1136	1153	1215
5	1203	D	You are keeping ZD +4 on your vessel. On 21 June , at 0906 DST, loran fixes your position at LAT 30°48.0'N, LONG 71°00.0'W. You are on a course of 167°T at 15.2 knots. At what time will local apparent noon (LAN) occur ZT at your vessel? You are keeping DST.	1145	1202	1218	1245
5	1204	A	On 25 April , your 0930 zone time position is LAT 28°35'S, LONG 82°30'W. Your vessel is on course 300°T at a speed of 20.0 knots. Determine the time of LAN.	1131	1158	1211	1225
5	1205	D	On 25 April , your 1130 DR position is LAT 24°50.0'N, LONG 61°25.0'W. Your vessel is on a course of 300°T at a speed of 16.0 knots. Determine the zone time of (LAN) for your vessel.	1154	1156	1202	1204
5	1206	D	Your 0900 DR position is LAT 23°16'N, LONG 146°12'E. Your vessel is on a course of 286°T, at a speed of 14.5 knots. Determine the zone time of LAN on 14 March .	1151	1209	1223	1228
5	1207	B	On 10 July , your 0930 zone time DR position is LAT 26°31.0'S, LONG 4°41.0'E. Your vessel is on course 308°T at a speed of 22.0 knots. What is the zone time of local apparent noon (LAN)?	1144	1149	1153	1159
5	1208	C	On 12 July , your 0800 ZT DR position is LAT 24°15.0'N, LONG 132°30.0'W. Your vessel is on course 045°T at a speed of 15.0 knots. What is the ZT of local apparent noon (LAN)?	1146	1148	1152	1159

5	1209	D	It is 22 October and you are keeping zone time +4. You are on course 083°T, speed 24 knots. Your 0820 DR position is LAT 26°10.0'N, LONG 52°20.0'W. What is the time of the second estimate of LAN by ship's clocks?	10h 04m 36s	10h 04m 53s	11h 04m 37s	11h 08m 54s	
5	1210	C	It is 19 October and you are keeping +4 zone time. You are on course 275°, speed 16 knots. Your 0800 DR position is LAT 25°34.0'N, LONG 74°36.0'W. What is the second estimate of the time of LAN by ship's clocks?	11h 48m 38s	12h 04m 49s	12h 49m 10s	13h 48m 36s	
5	1211	B	It is 15 July and you are keeping +7 zone time. You are on course 095°, speed 16 knots. Your 0800 DR position is LAT 25°39.4'N, LONG 129°46.2'W. What is the time of the second estimate of LAN by ship's clocks?	13h 40m 17s	13h 38m 26s	12h 42m 20s	12h 38m 20s	
5	1212	D	It is 21 November and you are keeping zone time +8. You are on course 082°T, speed 19 knots. Your 0830 DR position is LAT 24°14.8'N, LONG 133°35.5'W. What is the time of the second estimate of LAN by ship's clocks?	13h 35m 02s	13h 03m 20s	12h 35m 59s	12h 34m 51s	
5	1213	A	It is 23 November and you are keeping zone time +4. You are on course 262°T, speed 21 knots. Your 0800 DR position is LAT 24°30.0'N, LONG 48°40.0'W. What is the time of the second estimate of LAN by ship's clocks?	11h 05m 54s	11h 34m 22s	12h 06m 02s	12h 08m 36s	
5	1214	B	It is 25 February and you are keeping zone time +4. You are on course 283°T, speed 22 knots. Your 0900 DR position is LAT 29°10.3'N, LONG 72°04.9'W. What is the time of the second estimate of LAN by ship's clocks?	13h 08m 56s	13h 08m 02s	12h 41m 36s	12h 07m 56s	
5	1215	D	It is 9 February and you are keeping zone time -6. You are on course 258°T, speed 19 knots. Your 0840 DR position is LAT 26°21.0'S, LONG 78°39.0'E. What is the time of the second estimate of LAN by ship's clocks?	12h 05m 21s	12h 37m 12s	13h 13m 40s	13h 05m 44s	
5	1216	A	It is 8 March and you are keeping zone time -3. You are on course 104°T, speed 21 knots. Your 0830 DR position is LAT 25°35.0'S, LONG 66°34.0'E. What is the time of the second estimate of LAN by ship's clocks?	10h 41m 26s	11h 15m 34s	11h 17m 32s	11h 36m 54s	

5	1217	B	It is 31 October , and you are keeping zone time -12. You are on course 095°T, speed 24 knots. Your 0730 DR position is LAT 29°20.0'N, LONG 178°54.0'E. What is the time of the second estimate of LAN by ship's clocks?	11h 24m 19s	11h 40m 55s	12h 12m 16s	12h 40m 02s	
5	1218	D	It is 22 February , and you are keeping zone time +12. You are on course 267°T, speed 22 knots. Your 0800 DR position is LAT 28°15.0'N, LONG 179°18.0'W. What is the time of the second estimate of LAN by ship's clocks?	11h 17m 02s	11h 50m 42s	12h 16m 01s	12h 18m 00s	
5	1220	C	Anchorage regulations for this area may be obtained from _____.	Chesapeake Bay Port Authority, Hampton VA	Virginia - Maryland Pilots Association	Office of the Commander 5th Coast Guard District	Commanding General, Corps of Engineers, Washington, D.C.	
5	1224	B	What is the total length of the trip?	906.3 miles	922.3 miles	1155.8 miles	1187.3 miles	
5	1225	B	You estimate the current at 2.0 mph. What is the speed over the ground?	9.5 mph	5.5 mph	5.0 mph	4.5 mph	
5	1226	C	What are the dimensions of the Port Allen Lock at Baton Rouge, LA?	75 feet x 1188 feet	84 feet x 1180feet	84 feet x 1188 feet	75 feet x 1180 feet	
5	1227	C	At 0119, on 10 September, you pass Springfield Bend Lt. (mile 244.8 AHP) and estimate the current will average 2.5 mph for the remainder of your trip. What is your ETA at the mouth of the Ohio River if you are making turns for 8.5 mph?	1746, 12 September	1244, 13 September	2329, 14 September	0210, 15 September	
5	1228	A	As you pass under the Natchez-Vidalia Dual Bridge, the gage on the bridge reads 8.9 ft. If the highest point on your vessel is 54 ft. above the water, what is your vertical clearance?	63.1 feet	65.3 feet	67.2 feet	122.0 feet	
5	1229	C	Which type of daymark would you see on the Belle Island Corner Lt. at mile 458.6 AHP?	Green - Diamond	Green - Square	Red - Diamond	Red - Triangle	
5	1230	A	At 1814, on 11 September, you pass under the Greenville Highway Bridge (mile 531.3 AHP). What speed must you average to arrive at Jimmy Hawken Light (mile 663.5 AHP) at 0930 the following day?	8.7 mph	7.7 mph	6.3 mph	5.6 mph	
5	1231	D	Which company does NOT have a marine facility along the river bank in Madison Parish (mile 457.0 AHP)?	Complex Chemical Co.	Delta Southern Railroads	Farm Chemical	Baxter Wilson	
5	1232	B	The Vaucluse Trench fill revetment on the LMR extends from mile _____.	524.3 - 522.6 RDB	535.6 - 532.9 RDB	535.9 - 534.3 LDB	534.3 - 532.6 LDB	

5	1233	C	What is the distance from Greenville, MS, to Tiptonville, TN on the Mississippi River System?	95 miles	136 miles	341 miles	520 miles	
5	1234	A	What is the distance from the Amoco Docks at Baton Rouge, LA, to Pittsburgh, PA?	1681.7 miles	1575.3 miles	981.7 miles	727.9 miles	
5	1235	C	You are turning for 10 mph and passing Hog Point, LA. (mile 297.5 AHP). Angola reports that the current at Red River Landing is 4.5 mph. Which statement is TRUE?	The main channel lies on the south side of the island you see ahead.	You are making 14.5 mph over the ground.	An underwater stone dike has been constructed 0.5 miles upstream of Miles Bar Towhead.	You would expect to find the more favorable current near the broken red line in the river.	
5	1236	D	Which facility is located on the right descending bank at mile 363.6 AHP?	River Cement Corps..	Bunge Corps..	T.L. James	Vidalia Dock and Storage Co.	
5	1237	C	At 1118, on 24 May, you pass Natchez Gage and estimate the current will average 3.0 mph for the remainder of the time on the Mississippi River. What is your ETA at Cairo, IL if you continue to turn for 10 mph?	0840, 26 May	2218, 26 May	2339, 27 May	0339, 28 May	
5	1238	B	If the highest point of your towboat is 54 feet above the water and the Natchez Gage reads 24.8 feet, what will be your vertical clearance when passing under the Natchez-Vidalia westbound Highway Bridge?	35.9 feet	47.2 feet	49.6 feet	57.5 feet	
5	1239	D	In high water conditions, which publication would you consult for the latest information on buoys between Baton Rouge and Cairo?	List of Buoys and Daymarks	U.S.C.G. Light List	Army Corps. of Engineers Navigation Chart	None of the above	
5	1240	D	As you approach Ashland Light (mile 378.1 AHP), which type of daymark would you see on the light structure?	Green square	Green diamond	Red diamond	Red triangle	
5	1241	B	At 1554, on 25 May, you pass Huntington Point Light (mile 555.2 AHP). What was your average speed since departing Amoco Pipeline Co. DockS (253.6 AHP)?	6.9 mph	6.2 mph	4.8 mph	4.3 mph	
5	1242	A	The solid lines extending into the channel at mile 948 AHP are _____.	dikes	revetments	spoil areas	Westvaco Service Facilities	
5	1243	B	What is the width of the widest span of the Cairo Highway Bridge (Upper Mississippi River mile 1.3)?	800 feet	675 feet	625 feet	503 feet	
5	1244	A	If your vessel is making turns for 7.5 mph with an estimated average current of 1.5 mph, what is your ETA at the dock in Angelina, LA?	1621, 28 Dec	2203, 28 Dec	0516, 29 Dec	1621, 29 Dec	

5	1245	D	The highest point on your towboat is 67 feet above the water, and the Helena Gage reads +22.3 feet. What is the vertical clearance when you pass under the A-span of the Helena Highway Bridge?	74.7 feet	52.4 feet	49.8 feet	30.1 feet	
5	1246	C	Which of the following statements are TRUE?	Oil well structures are listed in the Light List.	All aids to navigation with lights have lateral significance.	On the Western Rivers, crossing marks may exhibit white lights.	None of the above.	
5	1247	B	At 0509, on 26 December, you pass under the Helena Highway Bridge (mile 661.7 AHP). What has been the average speed of the current since departing Memphis Harbor, McKellar Lake, if you have been making turns for 7.5 mph?	5.6 mph	4.4 mph	2.1 mph	1.8 mph	
5	1248	A	What is the distance in river miles, from the new mouth of the White River to the Petroleum Fuel & Terminal Co. (mile 144.6 AHP)?	454 miles	427 miles	384 miles	370 miles	
5	1249	C	What is the white/black within a circle symbol found at mile 592.1 AHP?	Terrence Landing Light	Daymark	River Gage	Information Board	
5	1250	D	What facility is not found near La Grange Towhead Light (538.2 AHP) on Greenville Harbour?	Mississippi Limestone	Ergon, Inc.	American Commercial Barge Lines	Greenville Casino Wharf	
5	1251	C	On 16 August , your 1600 ZT DR position is LAT 26°17.0'N, LONG 165°17.0'E. You are on course 301°T at a speed of 15 knots. What will be the zone time of sunset at your vessel?	1827	1832	1838	1845	
5	1252	C	On 13 August , your 0345 ZT DR position is LAT 21°35.0' N, LONG 135°26.0'W. You are on course 052°T at a speed of 14 knots. What will be the zone time of sunrise at your vessel?	0443	0449	0536	0540	
5	1253	C	On 8 August , your 0400 ZT DR position is LAT 23°16.0'S, LONG 105°33.0'W. You are on course 295°T at a speed of 25 knots. What will be the zone time of sunrise at your vessel?	0623	0629	0636	0654	
5	1254	C	On 19 July , your 1500 ZT DR position is LAT 28°25.0'N, LONG 120°28.0'W. You are on course 233°T at a speed of 10 knots. What will be the zone time of sunset at your vessel?	1842	1853	1901	1909	

5	1255	C	On 12 June , your 0400 ZT DR position is LAT 22°31.0'N, LONG 31°45.0'W. You are on course 240°T at a speed of 16.5 knots. What will be the zone time of sunrise at your vessel?	0507	0515	0523	0645
5	1256	D	On 17 May , your 0300 ZT DR position is LAT 27°21.0'N, LONG 146°14.0'E. You are on course 107°T at a speed of 18 knots. What will be the zone time of sunrise at your vessel?	0457	0511	0519	0522
5	1257	B	On 5 May , your 1300 ZT DR position is LAT 25°16.0'S, LONG 12°30.0'W. You are on course 012°T at a speed of 14 knots. What will be the zone time of sunset at your vessel?	1702	1719	1730	1741
5	1259	D	On 10 April , your 1630 ZT DR position is LAT 21°03.0'N, LONG 63°11.0'W. You are on course 324°T at a speed of 22 knots. What will be the zone time of sunset at your vessel?	1805	1814	1818	1833
5	1260	B	On 16 March , your 0330 ZT DR position is LAT 22°36.0'S, LONG 76°16.0'E. You are on course 098°T at a speed of 16 knots. What will be the ZT of sunrise at your vessel?	0545	0553	0600	0608
5	1261	B	On 16 February , your 0300 ZT DR position is LAT 28°32.0'S, LONG 176°49.0'E. You are on course 082°T at a speed of 21 knots. What will be the zone time of sunrise at your vessel?	0534	0552	0631	0645
5	1262	D	On 27 September , your 0345 ZT DR position is LAT 26°18.0'S, LONG 4°18.0'W. You are on course 271°T at a speed of 15 knots. What will be the zone time of sunrise at your vessel?	0525	0545	0555	0605
5	1263	C	On 18 October , your 1330 ZT DR position is LAT 27°32.0'N, LONG 154°47.0'W. You are on course 115°T at a speed of 20 knots. What will be the zone time of sunset at your vessel?	1715	1729	1742	1751
5	1264	D	On 17 November , your 1530 ZT DR position is LAT 27°13.0'S, LONG 153°21.0'W. You are on course 261°T at a speed of 14 knots. What will be the ZT of sunset at your vessel?	1813	1828	1834	1845

5	1265	A	On 22 November , your 1400 ZT DR position is LAT 22°16.0'N, LONG 136°37.0'E. You are on course 038°T at a speed of 22 knots. What will be the zone time of sunset at your vessel?	1705	1710	1714	1718
5	1266	B	On 1 December , your 1600 ZT DR position is LAT 22°48.0'S, LONG 91°26.0'E. You are on course 327°T at a speed of 16 knots. What will be the zone time of sunset at your vessel?	1823	1827	1831	1847
5	1267	A	On 10 December , your 1300 zone time (ZT) DR position is LAT 26°27.0'S, LONG 79°04.0'E. You are on course 068°T at a speed of 14 knots. What will be the zone time of sunset at your vessel?	1824	1846	1854	1908
5	1268	D	On 25 December , your 0330 ZT DR position is LAT 25°15.0'N, LONG 32°16.0'W. You are on course 145°T at a speed of 20 knots. What will be the zone time of sunrise at your vessel?	0623	0635	0641	0647
5	1269	D	At 1400 zone time, on 11 April , your DR position is LAT 25°40'N, LONG 91°00'W. You are steering 180°T at a speed of 10.0 knots. What is your zone time of sunset?	1812	1816	1820	1825
5	1270	A	At 0500 zone time, on 21 August , your DR position is LAT 47°00'N, LONG 125°15'W. You are steering 000°T at a speed of 9.8 knots. What is the zone time of sunrise?	0525	0529	0531	0535
5	1271	B	At 0400 zone time, on 24 June , your DR position is LAT 23°10.0'N, LONG 085°33'W. You are steering 295°T at a speed of 10.0 knots. What is the zone time of sunrise?	0452	0458	0504	0510
5	1272	C	At 1800 zone time, on 7 December , your DR position is LAT 22°48'S, LONG 91°26'W. You are steering 320°T at a speed of 14.0 knots. What is the zone time of sunset?	1830	1836	1842	1852
5	1273	D	At 1544 zone time, on 5 October , your DR position is LAT 25°00'N, LONG 60°15'W. You are steering 270°T at a speed of 6.8 knots. What is the zone time of sunset?	1728	1737	1741	1745

5	1274	B	On 13 February , at 0325 zone time, your DR position is LAT 23°20'N, LONG 155°15'W. You are steering 240°T at a speed of 13.6 knots. What is the zone time of sunrise?	0652	0657	0706	0711
5	1275	C	At 1730 zone time, on 3 March , your DR position is LAT 16°00'S, LONG 80°00'W. You are steering 000°T at a speed of 7.5 knots. What is the zone time of sunset?	1829	1834	1843	1852
5	1276	B	Your 0000 zone time position on 13 June is LAT 24°35'N, LONG 142°26'E. Your vessel is on course 245°T, speed is 13.5 knots. What is the zone time of sunrise?	0440	0445	0503	0528
5	1277	B	On 22 June , your 0400 zone time DR position is LAT 23°00'N, LONG 81°45'W. You are steaming on course 110°T at a speed of 8.6 knots. What will be the zone time of sunrise at your vessel?	0537	0541	0545	0547
5	1278	D	On 17 April , your vessel is enroute from the Panama Canal to Kobe, Japan. Your 0400 zone time DR position is LAT 26°12.0'N, LONG 126°12.0'W. Your vessel is on course 285°T at a speed of 18 knots. What will be the zone time of sunrise at your vessel?	0535	0541	0552	0602
5	1279	B	At 0327 ZT, on 29 May , your DR position is LAT 25°00'N, LONG 64°15'W. You are steering 270°T at a speed of 13.6 knots. What is the zone time of sunrise?	0521	0529	0536	0548
5	1280	A	On 27 March , your 0330 zone time DR position is LAT 23°32'N, LONG 154°47'E. Your vessel is on a course of 105°T at a speed of 20 knots. What will be the zone time of sunrise at your vessel?	0534	0557	0612	0624
5	1281	A	On 2 January , you are on a course of 094°T at a speed of 20 knots. At 0430 ZT, your DR position is LAT 24°12'N, LONG 71°24'W. Determine the zone time of sunrise.	0627	0636	0644	0701
5	1282	A	On 1 November , your 1600 zone time DR position is LAT 27°48'S, LONG 91°26'E. Your vessel is on a course of 327°T at a speed of 16 knots. What will be the zone time of sunset at your vessel?	1813	1821	1829	1836

5	1283	C	On 5 May , your 1800 ZT DR position is LAT 26°11.5'N, LONG 65°35.0'W. You are on course 270°T at a speed of 12 knots. What will be the ZT of sunset at your vessel?	1825	1840	1857	1901
5	1284	B	On 10 November , your 1630 zone time DR position is LAT 25°10.0'N, LONG 71°12.0'W. You are on course 335°T at a speed of 24 knots. What will be the zone time of sunset at your vessel?	1650	1700	1715	1730
5	1285	D	On 28 June , your 1820 ZT DR position is LAT 16°00.0'N, LONG 31°00.0'W. You are on course 310°T at a speed of 18 knots. What will be the zone time of sunset at your vessel?	1828	1832	1836	1840
5	1286	B	As you pass under the Vicksburg Bridges, you estimate the current as 3.0 mph. What is the speed over the ground, if your vessel is making turns for 10.5 mph?	16.5 mph	13.5 mph	10.5 mph	7.5 mph
5	1287	C	As you approach Buckridge Light (mile 412.5 AHP), which type of daymark would you see on the light structure?	Red diamond	Red triangle	Green square	Green diamond
5	1288	C	What is NOT true about the yellow square at mile 227.3 AHP?	Yellow in color	Square in shape	Lighted	Part of Intracoastal Waterway System
5	1289	D	The horizontal clearance of the center span on the Baton Rouge RR and Highway 190 Bridge is _____.	443	500	575	623
5	1290	C	You are at mile 230.0 AHP and see on the map a large rectangle outlined with a broken line . This indicates a _____.	revetment	dredge material	fleeting area	dike
5	1291	A	As you pass Solitude Lt. (mile 249.0 AHP) which dayboard would you see?	Green diamond	Green square	Red triangle	Red diamond
5	1292	B	Which of the following statements regarding buoys on the Mississippi River is TRUE?	Buoy positions on the chart are exact.	Buoys should be given as wide a berth as possible in passing.	The buoys are maintained on station year round.	The buoys do not shift positions due to permanent moorings.
5	1293	A	What is indicated by the two light gray shaded areas that cross the river above False River Lt. (mile 251.0 AHP).	Utility crossings	Ferry crossings	Aerial cable crossings	Bridge construction

5	1294	B	What are the light characteristics of Greenwood Light (mile 288.6 AHP)?	Fixed red light	2 red flashes every 5 seconds	1 red flash every 4 seconds	2 white flashes every 4 seconds	
5	1295	C	After passing Wilkinson Lt. you see a flashing amber light on the right descending bank ahead. The flashing light indicates that you should _____.	stay in the deepest water	slow down due to dredging operations	keep as close to the left descending bank as safety permits	keep as close to the right descending bank as safety permits	
5	1296	D	At which of the following times would you be able to listen to lower Mississippi River conditions on VHF Channel 22?	0900 hours	1100 hours	1200 hours	1300 hours	
5	1297	D	At 0645, on the 17th of April, you pass Hole in the Wall Lt. (mile 373.4 AHP). What has been your average speed since departing the Exxon Refinery?	8.8 mph	7.3 mph	6.8 mph	6.3 mph	
5	1298	A	Your company wants to know at what time you will be arriving at the fleeting area at Sycamore Chute Light (mile 740.3 AHP) in Memphis, TN You are making turns for 9.0 mph and you estimate the average current at 2.2 mph. Figuring the distance and time from Hole in the Wall Lt. (mile 373.4 AHP), what is your ETA at Sycamore Chute Lt.?	1242, April 19th	1645, April 19th	2242, April 19th	2333, April 19th	
5	1299	B	What is the length of the trip?	405.8 miles	904.0 miles	1002.0 miles	1136.8 miles	
5	1300	C	You estimate the current as 2.5 mph. What is the speed over the ground?	11.0 mph	8.0 mph	6.0 mph	5.5 mph	
5	1301	C	As you approach Casting Yard Dock Lt. (mile 265.4 AHP) you notice on the map a circle with 2 black sectors. This symbol indicates a _____.	lock	warning sign	river gage	mooring buoy	
5	1302	A	From Baton Rouge to Cairo, what is the maintained minimum channel depth during low water?	9 feet	12 feet	15 feet	30 feet	
5	1303	A	On which map would you find Redman Point, Arkansas?	20	38	45	60	
5	1304	D	At 1000, on May 11th, you are passing George Prince Lt. (mile 364.1 AHP) in Natchez, Mississippi and must send an ETA to the Monsanto Terminal in St. Louis (mile 178.0 UMR). Your engines are still turning for 8.5 mph and you estimate the current at 2.5 mph. What will be your arrival time in St. Louis?	1919 on 15 May	2344 on 15 May	1113 on 16 May	1757 on 16 May	

5	1305	A	As you approach Ashland Light (mile 378.1 AHP) which daymark would you see?	Red triangle	Red diamond	Green square	Green diamond	
5	1306	D	What is your clearance as you pass under the Vicksburg Highway 80 Bridge (mile 437.8 AHP). if the Vicksburg Gage reads 14.8 feet and the highest point on your tow boat is 44.5 feet?	36 feet	42 feet	48 feet	57 feet	
5	1307	A	After entering Milliken Bend (mile 455 AHP) you wish to locate the river service in Madison Parish, Louisiana. The river service is indicated by the square containing which number?	5	4	3	2	
5	1308	D	At Filter Point Light (mile 475 AHP) there are 2 close straight dashed lines on the map passing through the black dots. What do these lines represent?	Submerged oil pipelines	Submerged gas pipelines	Submerged telephone cables	Aerial power cables	
5	1339	B	At 1300, 5 January, the river will be temporarily closed to navigation for six hours at mile 531.3 AHP due to repairs to a bridge. What minimum speed over the ground must you make from Natchez Gage in order not to be delayed?	5.7 mph	6.0 mph	6.8 mph	7.3 mph	
5	1340	B	At 1300, 5 January, the river will be temporarily closed to navigation for six hours at mile 531.3 AHP due to repairs to a bridge. What minimum speed over the ground must you make from Natchez Gage in order not to be delayed?	5.7 mph	6.0 mph	6.8 mph	7.3 mph	
5	1341	B	What is the distance from the River Cement Co. Dock to the mouth of the Ohio River?	718.8 miles	780.8 miles	953.5 miles	981.5 miles	
5	1342	B	What is the vertical clearance between the highest point of your towboat, if it is 45 feet above the water, and if the Natchez Gage reads 23.4 feet when passing under the Natchez-Vidalia Westbound Highway Bridge?	67.5 feet	57.1 feet	52.2 feet	45.2 feet	
5	1343	A	At 1019, on 10 March, you pass under the Greenville Bridge (mile 531.3 AHP). What was your average speed since departing River Cement Co. Dock?	7.2 mph	6.8 mph	6.5 mph	6.2 mph	
5	1344	D	At 2142, on January 3, you pass Sebastapol Light (mile 283.3 AHP). At 0137, January 4, you pass Fort Adams Light (mile 311.4 AHP). You have been turning for 9.0 mph. What was the current?	4.2 mph	3.3 mph	2.7 mph	1.8 mph	

5	1363	C	You are taking a time tick using the 1400 signal from Buenos Aires, Argentina. You hear a 0.4 second dash followed by a series of dots, noting that the 29th and the 56th to 59th dots are omitted. At the start of the following 0.4 second dash (which is followed by an 8 second pulse), the comparing watch reads 02h 00m 15s. When compared to the chronometer, the comparing watch reads 02h 01m 29s, and the chronometer reads 01h 59m 50s. What is the chronometer error?	0m 15s fast	1m 14s fast	1m 24s slow	1m 54s slow	
5	1364	D	In high water conditions, which publication would you consult for the latest information on buoys between Baton Rouge and Cairo?	List of Buoys and Daymarks	U.S.C.G. Light List	Army Corps. of Engineers Navigation Chart	None of the above	
5	1365	C	You estimate the current as 2.5 mph. What is the speed over the ground?	11.0 mph	8.0 mph	6.0 mph	5.5 mph	
5	1366	D	On which river is New Providence, TN located?	Allegheny	Upper Mississippi	Ohio	Cumberland	
5	1392	D	On 3 February, your 0550 zone time DR position is LAT 26°16.0'N, LONG 112°05.0'W. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Spica, Antares, Saturn	Vega, Antares, Dubhe	Venus, Regulus, Vega	Spica, Kochab, Rasalhague	
5	1393	B	It is 15 July and you are keeping +7 zone time. You are on course 095°, speed 16 knots. Your 0800 DR position is LAT 25°39.4'N, LONG 129°46.2'W. What is the time of the second estimate of LAN by ship's clocks?	13h 40m 17s	13h 38m 19s	12h 42m 20s	12h 38m 20s	
5	1406	B	Which of the following describes the river at Cypress Bend, mile 569.0 AHP?	There are revetments on both banks.	The river is three tenths of a mile wide.	There is dredge spoil on both banks.	There is a turning basin located on the LDB.	
5	1407	C	At 2350 hours on 23 June, you are at mile 610.5 AHP when you see about a mile ahead white lights on the water near the left bank. What might you see when you come abreast of these lights?	Privately maintained buoys at a yacht club	Government buoys marking the Hurricane Point dikes	Barges moored at the Dennis Landing Terminal	A pipeline discharging dredge spoil	
5	1408	C	The horizontal clearance of the center span on the Baton Rouge RR and Highway 190 Bridge is _____.	443	500	623	748	
5	1409	B	As you pass Solitude Lt. (mile 249.0 AHP) which dayboard would you see?	Green square	Green diamond	Red triangle	Red diamond	

5	1410	A	What is the distance from the Amoco Docks at Baton Rouge, LA, to Pittsburgh, PA?	1681 miles	1575 miles	981 miles	727 miles	
5	1411	C	After you get underway, what is the first river gage you will pass?	Head of Passes	Baton Rouge	Bayou Sara	Red River Landing	
5	1412	C	At Filter Point Light (mile 475 AHP) there are 3 close straight dashed lines on the map passing through the black dot below the number 475. What do these lines represent?	Oil pipelines	Submerged gas pipelines	Power Cables	Submerged fiber optic cable	
5	1413	B	You complete changing out your tow and get underway enroute Ark City Tank Storage (mile 554.0 AHP) to deliver the tank barges. What is the distance you must travel from Cairo Point Light?	202.1 miles	400.7 miles	554.2 miles	605.8 miles	
5	1414	D	What is the mile point of the Fulton Gage?	598 AHP	632 AHP	687 AHP	778 AHP	
5	1415	C	The highest point on your towboat is 52 feet above the water, and the Helena Gage reads +9.6 feet. What will be the vertical clearance when you pass under the A-span of the Helena Highway Bridge?	49.8 feet	53.9 feet	57.8 feet	73.1 feet	
5	1416	D	Which company does NOT have a marine facility along the river bank in Madison Parish (mile 457.0 AHP)?	Complex Chemical Co.	Delta Southern Railroads	Mid-Delta Helena, LLC	Baxter Wilson	
5	1417	D	What is the distance from Baton Rouge, LA, to Hickman, KY, on the Mississippi River System?	117 miles	433 miles	656 miles	692 miles	
5	1418	D	How far is it to the Hernando Desoto Bridge in Memphis, TN?	980.8 miles	736.6 miles	312.3 miles	218.1 miles	
5	1419	A	Which light will you be passing at 0059, on 22 September, if you make good 9.2 knots?	Obion Bar Lt.	Kate Aubrey Lt.	Trotter Lt.	Quaker Oats Lt.	
5	1420	B	What company does NOT have a marine facility along the river bank in Helena (mile 661 to 665 AHP)?	Helena Port Terminal, Inc.	Riceland Food Corps..	Quincy Soybean Co.	Texas Eastern Pipeline Co.	
5	1421	A	What is your ETA at the Helena Highway Bridge?	1335, 24 Sept	1109, 24 Sept	0926, 24 Sept	0458, 24 Sept	
5	1422	B	What organization has an installation at the uppermost end of Carthage Revetment?	U.S. Coast Guard	River Cement Co.	U.S. Army Corps. of Engineers	International Paper Co.	
5	1423	B	You pass Ratcliff Light (mile 289.8) at 1650. What was your average speed since leaving Baton Rouge?	7.3 mph	7.6 mph	8.0 mph	8.3 mph	

5	1424	C	You pass Springfield Bend Lt. (mile 244.8 AHP) at 1242, on 17 October, and estimate the current will average 2.5 mph for the remainder of your trip. What is your ETA at the mouth of the Ohio River if you are making turns for 10.5 mph?	1905, 19 October	2122, 19 October	0519, 21 October	0847, 21 October	
5	1425	D	At 1227, on 19 October, you pass under the Greenville Highway Bridge (mile 531.3 AHP). What speed must you average to arrive at Jimmy Hawken Light (mile 663.5 AHP) at 0930 the following day?	5.2 mph	5.6 mph	5.9 mph	6.3 mph	
5	1426	D	What is the total length of the trip?	910.6 miles	901.4 miles	900.7 miles	873.7 miles	
5	1431	B	As you pass under the Greenville Highway Bridge, you estimate the current as 4.5 mph. What is the speed over the ground, if your vessel is making turns for 9 mph?	9.5 mph	13.5 mph	14.5 mph	16.5 mph	
5	1451	B	On 11 December , your 1816 ZT DR position is LAT 26°30.0'N, LONG 140°35.0'E. At that time, you observe Venus bearing 230°pgc. The chronometer reads 09h 14m 52s and the chronometer error is 01m 02s slow. The variation is 3.5°E. What is the gyro error?	2.2°E	3.3°E	3.2°W	4.2°W	
5	1452	D	On 6 November , your 0752 zone time DR position is LAT 25°11.0'N, LONG 76°07.0'W. At that time, you observe the Sun bearing 119°psc. The chronometer reads 12h 53m 07s, and the chronometer error is 01m 19s fast. The variation is 3°W. What is the deviation of the standard magnetic compass?	2.2°W	3.8°W	2.8°E	3.2°E	
5	1453	A	On 15 October , your 0325 zone time DR position is LAT 26°51.0'N, LONG 138°17.0'W. At that time, you observe Canopus bearing 167°pgc. The chronometer reads 00h 25m 36s, and the chronometer error is 00m 20s slow. The variation is 2°E. What is the gyro error?	1.3°W	3.2°W	3.2°E	4.1°W	

5	1454	D	On 4 October , your 0734 zone time DR position is LAT 24°11.0'N, LONG 162°34.0'E. At that time, you observe the Sun bearing 105.5°psc. The chronometer reads 08h 36m 11s, and the chronometer error is 01m 46s fast. The variation is 7°W. What is the deviation of the standard compass?	1.2°W	1.9°E	5.3°W	5.8°E
5	1455	A	On 4 October , your 1907 zone time DR position is LAT 25°15.0'S, LONG 105°44.0'E. At that time, you observe Deneb bearing 011.5°psc. The chronometer reads 00h 07m 42s, and the chronometer error is 00m 36s fast. The variation is 7.5°W. What is the deviation of the standard compass?	3.2°E	4.3°W	2.1°E	2.1°W
5	1456	B	On 12 September , your 0736 zone time DR position is LAT 28°34.0'S, LONG 174°49.0'E. At that time, you observe the Sun bearing 084° per standard magnetic compass (psc). The chronometer reads 07h 38m 11s, and the chronometer error is 01m 46s fast. The variation is 11°W. What is the deviation of the standard magnetic compass?	2.9°W	3.2°E	3.9°E	4.7°W
5	1457	D	On 25 August , your 1926 zone time DR position is LAT 24°17.0'S, LONG 05°47.0'W. At that time, you observe Fomalhaut bearing 117°psc. The chronometer reads 07h 26m 52s, and the chronometer error is 00m 15s fast. The variation is 1.5°E. What is the deviation of the standard magnetic compass?	0.2°W	0.4°E	1.3°W	2.8°W
5	1458	D	On 6 August , your 1552 zone time DR position is LAT 24°26.0'S, LONG 73°19.0'E. At that time, you observe the Sun bearing 302°psc. The chronometer reads 10h 55m 07s, and the chronometer error is 02m 38s fast. The variation is 6°E. What is the deviation of the standard magnetic compass?	4.1°W	4.6°E	5.9°E	6.1°W

5	1459	B	On 28 July , your 1937 zone time DR position is LAT 26°13.0'N, LONG 78°27.0'E. At that time, you observe Deneb bearing 048.7°pgc. The chronometer reads 02h 37m 42s, and the chronometer error is 00m 15s fast. The variation is 4°W. What is the gyro error?	2.4°W	2.8°E	3.6°W	3.6°E
5	1460	A	On 27 June , your 1905 ZT DR position is LAT 24°35.0'N, LONG 50°15.0'W. At that time, you observe Saturn bearing 211°pgc. The chronometer reads 10h 04m 26s and the chronometer error is 01m 20s slow. The variation is 4.5°E. What is the gyro error?	1.1°W	3.4°E	3.4°W	5.6°W
5	1461	A	On 27 June , your 0734 zone time DR position is LAT 22°14.0'N, LONG 53°52.0'W. At that time, you observe the Sun bearing 069.5°psc. The chronometer reads 11h 32m 51s and the chronometer error is 01m 26s slow. The variation is 5°E. What is the deviation of the standard magnetic compass?	1.6°E	2.9 W	2.9°E	3.2°E
5	1462	B	On 17 June , your 0815 zone time DR position is LAT 25°27.0'N, LONG 47°16.0'W. At that time, you observe the Sun bearing 079.5°psc. The chronometer reads 11h 15m 03s, and the chronometer error is 01m 15s fast. The variation is 3°E. What is the deviation of the standard magnetic compass?	0.7°W	3.5°W	3.7°E	2.3°E
5	1463	D	On 26 May , your 0723 zone time DR position is LAT 24°50.0'N, LONG 38°11.0'W. At that time, you observe the Sun bearing 076.5°psc. The chronometer reads 10h 25m 43s, and the chronometer error is 02m 57s fast. The variation is 7°W. What is the deviation of the standard magnetic compass?	3.3°E	3.7°W	8.3°W	10.7°E
5	1464	D	On 17 May , your 1554 zone time DR position is LAT 26°33.0'N, LONG 65°46.0'W. At that time, you observe the Sun bearing 269°psc. The chronometer reads 07h 55m 47s, and the chronometer error is 01m 14s fast. The variation is 3°W. What is the deviation of the standard magnetic compass?	0.6°E	1.6°W	4.6°W	7.6°E

5	1465	B	On 22 April , your 0344 zone time DR position is LAT 21°16.0'N, LONG 107°32.0'W. At that time, you observe Spica bearing 236°psc. The chronometer reads 10h 45m 16s, and the chronometer error is 00m 25s fast. The variation is 7.5°E. What is the deviation of the standard compass?	1.1°W	5.2°E	5.2°W	6.1°W
5	1466	A	On 21 April , your 1542 zone time DR position is LAT 28°54.0'S, LONG 19°07.0'W. At that time, you observe the Sun bearing 299°psc. The chronometer reads 04h 44m 11s, and the chronometer error is 01m 54s fast. The variation is 3°E. What is the deviation of the standard compass?	0.3°W	0.4°E	2.7°W	2.7°E
5	1467	C	On 17 April , your 1610 ZT DR position is LAT 22°07.0'N, LONG 158°16.0'W. At that time, you observe the Sun bearing 271°psc. The chronometer reads 03h 08m 52s, and the chronometer error is 01m 16s slow. The variation is 4°E. What is the deviation of the standard magnetic compass?	1.1°W	1.7°E	2.3°W	2.9°E
5	1468	B	On 17 April , your 1516 zone time DR position is LAT 27°24.0'N, LONG 115°24.0'E. At that time, you observe the Sun bearing 247°psc. The chronometer reads 07h 16m 26s, and the chronometer error is 00m 32s slow. The variation is 4.5°E. What is the deviation of the standard compass?	4.5°W	5.4°E	6.2°E	6.2°W
5	1469	D	On 2 March , your 2216 ZT DR position is LAT 21°20.0'S, LONG 17°10.0'W. At that time, you observe Saturn bearing 078°psc. The chronometer reads 11h 14m 04s, and the chronometer error is 02m 20s slow. The variation is 4.5°W. What is the deviation of the standard compass?	1.5°W	1.6°E	2.9°W	3.6°E

5	1470	C	On 1 March , your 2135 zone time DR position is LAT 23°54.0'N, LONG 63°22.0'W. At that time, you observe Schedar bearing 328°psc. The chronometer reads 01h 35m 16s, and the chronometer error is 00m 07s slow. The variation is 3.5°E. What is the deviation of the standard compass?	2.3°E	2.5°W	3.2°W	4.2°E
5	1471	B	On 21 February , your 0823 zone time DR position is LAT 21°44.0'S, LONG 80°14.0'E. At that time, you observe the Sun bearing 096°psc. The chronometer reads 03h 25m 19s, and the chronometer error is 01m 52s fast. The variation is 5°W. What is the deviation of the standard magnetic compass?	2.2°E	4.7°W	5.7°E	6.3°W
5	1472	D	On 9 February , your 0739 zone time DR position is LAT 23°31.0'N, LONG 143°41.0'E. At that time, you observe the Sun bearing 104.5°psc. The chronometer reads 09h 37m 12s, and the chronometer error is 01m 52s slow. The variation is 3.5°W. What is the deviation of the standard magnetic compass?	1.6°E	2.3°W	5.1°W	8.6°E
5	1473	C	On 26 January , your 1615 ZT DR position is LAT 27°14.0'S, LONG 57°22.0'W. At that time, you observe the Sun bearing 266°psc. The chronometer reads 08h 13m 19s, and the chronometer error is 01m 46s slow. The variation is 4°E. What is the deviation of the standard magnetic compass?	4.8°E	4.9°W	5.9°W	7.8°E
5	1474	A	On 14 January , your 0746 zone time DR position is LAT 26°37.0'N, LONG 153°19.0'W. At that time, you observe the Sun bearing 123°psc. The chronometer reads 05h 49m 16s, and the chronometer error is 02m 29s fast. The variation is 3°W. What is the deviation of the standard magnetic compass?	1.4°W	1.6°E	3.4°E	4.4°W

5	1475	A	On 26 February , your vessel's 1615 ZT DR position is LAT 25°14'S, LONG 57°22'W, when an azimuth of the Sun is observed. The chronometer time of the sight is 8h 13m 19s, and the Sun is bearing 266.0° per standard magnetic compass. The chronometer error is 01m 46s slow, and the variation in the area is 6°E. What is the deviation of the standard compass?	1.7°E	3.4°W	7.7°E	13.7°E
5	1476	C	On 16 September , your vessel's 0736 zone time DR position is LAT 27°34'S, LONG 174°49'E, when an azimuth of the Sun is observed. The chronometer time of the sight is 07h 38m 11s, and the Sun is bearing 079.8° per gyrocompass. The chronometer error is 01m 46s fast, and the variation in the area is 11.0°W. At the time of the sight, the helmsman reports that he was heading 252°pgc and 258° per magnetic compass. What is the deviation of the magnetic compass?	2°W	3°W	3°E	8°W
5	1477	C	On 27 June , your vessel's 0816 ZT DR position is LAT 22°14'S, LONG 53°52'W, when an azimuth of the Sun is observed. The chronometer time of the sight is 12h 15m 02s, and the Sun is bearing 047.5° per standard magnetic compass. The chronometer error is 00m 46s slow, and the variation in the area is 6.0°E. What is the deviation of the standard magnetic compass?	1.5°E	1.9°W	3.0°W	3.0°E
5	1478	D	On 12 June , at 0919 zone time, your position is LAT 26°52'N, LONG 84°34'W. The chronometer reads 03h 17m 00s. Chronometer error is 01m 40s slow. At that time, an azimuth of the Sun is obtained. The bearing is 089.5° per standard magnetic compass. Variation for this area is 4.5°E. What is the deviation of the standard magnetic compass?	9.5°E	9.5°W	5.2°E	5.2°W

5	1479	D	<p>On 6 November , your vessel's 0706 zone time DR position is LAT 25°30.0'N, LONG 85°35.0'W, when an azimuth of the Sun is observed. The chronometer time of the sight is 01h 03m 30s, and the Sun is bearing 114.0°pgc. The chronometer error is 02m 30s slow, and the variation in the area is 2°.</p> <p>What is the gyro error?</p>	0.8°E	0.8°W	2.0°W	2.0°E
5	1480	B	<p>On 28 November , your vessel's 0712 zone time DR position is LAT 26°54'S, LONG 45°18'W, when you take an azimuth of the Sun. Determine the gyro error using the azimuth information.</p> <p>Chronometer time: 10h 09m 18s Chronometer error: slow 02m 54s Gyro bearing: 102°</p>	1.7°W	0.6°W	1.1°E	0.8°E
5	1481	B	<p>On 24 May , your vessel's 1000 ZT position is LAT 25°36.0'N, LONG 118°39.5'W, when you take an azimuth of the Sun. Determine the gyro error using the azimuth information.</p> <p>Chronometer time: 06h 21m 48s Chronometer error: fast 01m 36s Gyro bearing: 099.4°</p> <p>Variation: 11.1°E</p>	0.3°W	1.3°W	1.8°E	2.4°E
5	1482	A	<p>On 20 July , your vessel's 1626 zone time DR position is LAT 27°13.0'N, LONG 63°42.0'W, when you take an azimuth of the Sun. Determine the gyro error using the azimuth information.</p> <p>Chronometer time: 08h 24m 18s Chronometer error: slow 02m 12s Gyro bearing: 279.3°</p> <p>Variation: 15°W</p>	1.9°W	2.6°W	1.4°E	2.6°E
5	1483	A	<p>On 31 May , your vessel's 1420 zone time DR position is LAT 29°06'N, LONG 120°06'W, when an azimuth of the Sun is observed. The bearing of the Sun per standard magnetic compass was 255.3°. The chronometer time of the observation is 10h 17m 24s. The chronometer error is 02m 32s slow. The variation for this area is 12.9°E. What is the deviation of the standard magnetic compass?</p>	2.5°W	2.9°W	2.9°E	3.2°E

5	1484	C	On 7 December , your vessel's 0835 zone time DR position is LAT 28°30.0'N, LONG 125°39.3'W, when an azimuth of the Sun is observed. The chronometer time of the sight is 04h 34m 48s, and the Sun is bearing 113° per standard magnetic compass. The chronometer error is 01m 24s slow, and the variation in the area is 13.0°E. What is the deviation of the standard magnetic compass?	0.7°E	1.0°W	2.3°E	3.0°W
5	1485	B	On 6 October , your 0416 zone time DR position is LAT 25°16.0'N, LONG 130°25.0'E. At that time, you observe Mars bearing 083°psc. The chronometer reads 07h 16m 22s, and the chronometer error is 00m 10s fast. The variation is 1.5°E. What is the deviation of the standard compass?	0.4°E	1.2°W	3.5°E	19.0°E
5	1486	A	On 1 September , your 1115 zone time DR position is LAT 25°20.0'N, LONG 28°24.0'W. At that time, you observe the Sun bearing 160.5°psc. The chronometer reads 01h 14m 58s, and the chronometer error is 01m 17s fast. The variation is 13.5°W. What is the deviation of the standard compass?	2.1°E	4.1°E	11.0°W	11.0°E
5	1487	C	On 5 June , your 0420 zone time DR position is LAT 26°47.0'N, LONG 133°19.5'W. At that time, you observe Vega bearing 298.1°psc. The chronometer reads 01h 21m 17s, and the chronometer error is 02m 25s fast. The variation is 3.5°E. What is the deviation of the standard compass?	1.8°E	5.2°E	1.8°W	5.2°W
5	1488	D	At 2326 ZT, on 22 June , your vessel's position is LAT 28°30'N, LONG 150°04'W. An azimuth of the planet Jupiter is observed, and the standard compass bearing is 250.4°. The chronometer reads 09h 24m 36s and is 01m 12s slow. The variation of this area is 13.5°E. What is the deviation of the standard compass?	3.0°W	3.5°W	1.5°E	2.3°E

5	1489	C	On 23 July , your 2100 ZT position is LAT 36°43.0'N, LONG 16°09.8'W, when you observed an azimuth of Polaris to determine the compass error. Polaris bears 359.0° per gyrocompass. At the time of the observation, the helmsman noted that he was heading 319.0° per gyrocompass and 331.0° per standard compass. Variation is 12.0°W. Which of the following statements is TRUE?	The gyro error is 0.7°E.	The gyro error is 1.7°W.	The deviation is 1.7°E.	The compass error is 13.7°W	
5	1490	C	On 11 January , your 0450 ZT position is LAT 38°42'N, LONG 14°16'W. You observe Polaris bearing 358.5°pgc. At the time of the observation the helmsman noted that he was heading 160°pgc and 173°psc. The variation is 9°W. What is the deviation for that heading?	1°E	1°W	3°W	13°W	
5	1491	B	On 5 February , your 2320 ZT position is LAT 52°28'N, LONG 23°48'W. You observe Polaris bearing 000.2°pgc. At the time of the observation the helmsman noted that he was heading 224°pgc and 244°psc. The variation is 20°W. What is the deviation for that heading?	0.0°	1.5°W	3.0°W	4.5°W	
5	1492	B	On 22 February , your 2045 ZT position is LAT 33°19'N, LONG 52°06'W. You observe Polaris bearing 358.1°pgc. At the time of the observation the helmsman noted that he was heading 048°pgc and 065°psc. The variation is 19°W. What is the deviation for that heading?	1°E	3°E	1°W	3°W	
5	1493	A	On 11 July , your 0240 ZT position is LAT 14°52'N, LONG 34°23'W. You observe Polaris bearing 359.8°pgc. At the time of the observation the helmsman noted that he was heading 279°pgc and 299°psc. The variation is 19°W. What is the deviation for that heading?	0°	1°E	1°W	3°W	

5	1494	D	On 5 August , your 0310 ZT position is LAT 09°02'N, LONG 21°08'W. You observe Polaris bearing 002°pgc. At the time of the observation the helmsman noted that he was heading 316°pgc and 329°psc. The variation is 15°W. What is the deviation for that heading?	0.0°	1.5°W	3.0°W	0.5°E
5	1495	D	On 9 September , your 2043 ZT position is LAT 24°18'N, LONG 66°46'W. You observe Polaris bearing 001°pgc. At the time of the observation the helmsman noted that he was heading 031°pgc and 040°psc. The variation is 11°W. What is the deviation for that heading?	0°	1°W	3°W	2°E
5	1496	B	On 3 October , your 2122 ZT position is LAT 26°32'N, LONG 84°26'W. You observe Polaris bearing 359.8°pgc. At the time of the observation the helmsman noted that he was heading 106°pgc and 107°psc. The variation is 0°. What is the deviation for that heading?	1°E	0°	1°W	2°W
5	1497	C	On 19 November , your 0146 ZT position is LAT 33°48'N, LONG 25°22'E. You observe Polaris bearing 359.8°pgc. At the time of the observation the helmsman noted that he was heading 224°pgc and 222.5°psc. The variation is 2°E. What is the deviation for that heading?	2.0°E	0.5°E	1.0°W	1.5°W
5	1498	A	On 7 December , your 0350 ZT position is LAT 35°42'N, LONG 17°38'E. You observe Polaris bearing 359.7°pgc. At the time of the observation the helmsman noted that he was heading 016°pgc and 014°psc. The variation is 1°E. What is the deviation for that heading?	0.3°E	1.5°E	0.3°W	1.5°W
5	1499	C	On 16 June , your 0430 zone time DR position is LAT 29°24.0'S, LONG 36°16.0'E. At that time, you observe Vega bearing 341.0°psc. The chronometer reads 02h 32m 06s, and the chronometer error is 01m 54s fast. The variation is 20.5°W. What is the deviation?	3.2°E	3.2°W	2.4°W	2.8°E

5	1500	A	On September 9 , your 2130 zone time (ZD +5) DR position is LAT 45°08'N, LONG 82°38'W. At that time, you observe Polaris bearing 000.5°pgc. The chronometer time of the observation is 02h 26m 09s, and the chronometer is 1m 43s slow. The variation is 8.7°W. What is the gyro error?	0.7°E	1.2°E	0.8°W	9.4°W
5	1501	D	On 3 October , your 0330 zone time (ZD + 5) DR position is LAT 47°41'N, LONG 86°49'W. At that time, you observe Polaris bearing 357.5°pgc. The chronometer time of the observation is 08h 32m 04s, and the chronometer is 0m 27s slow. The variation is 5.5°W. What is the gyro error?	7.5°E	5.0°E	3.5°E	2.0°E
5	1502	A	On May 20 , you are keeping ZD +4, and your 2300 (ZD +4) DR position is LAT 42°07'N, LONG 81°02'W. At that time, you observe Polaris bearing 012°psc. The chronometer time of the observation is 03h 02m 23s, and the chronometer is 1m 17s fast. The variation is 9.5°W. What is the deviation of the magnetic compass?	2.7°W	12.2°W	6.8°E	12.2°E
5	1503	B	On 30 July , your 0200 zone time (ZD +4) DR position is LAT 43°48'N, LONG 78°00' W. At that time, you observe Polaris bearing 008.7°psc. The chronometer time of the observation is 05h 58m 07s, and the chronometer is 0m 23s slow. The variation is 10.5°W. What is the deviation of the magnetic compass?	0.5°E	3.0°E	7.5°W	18.0°W
5	1535	A	The Red River Landing Gage reads 5.2 feet. The low water reference plane (LWRP) for Red River is 10.6 feet. Which of the following statements is TRUE?	River level is below the Low Water Reference Plane.	The depth over revetment at Old River is 25.2 ft.	The depth over Old River Lock sill is greater than 11 ft.	This gage reading is at a higher elevation than the same reading on the Gage at Head of Passes.
5	1536	C	As you approach Casting Yard Dock Lt. (mile 265.4 AHP) you notice on the map a circle with 2 black sectors. This symbol indicates a _____.	lock	warning sign	river gage	mooring buoy
5	1537	D	What is your clearance as you pass under the Vicksburg Highway 80 Bridge (mile 437.8 AHP). if the Vicksburg Gage reads 14.8 feet and the highest point on your tow boat is 44.5 feet?	36 feet	42 feet	48 feet	57 feet

5	1538	D	At 1032 on 24 June, you pass Carolina Landing Light(508.8 AHP). What has been the average current since 2350, 23 June, if you have been making turns for 9.0 mph?	8.5 mph	5.7 mph	1.5 mph	0.5 mph	
5	1539	C	As you approach Vauclose Bend Light (mile 533.8 AHP), which type of daymark would you see on the light structure?	Red diamond	Red triangle	Green square	Green diamond	
5	1540	B	You estimate the current at 2.0 mph. What is the speed over the ground?	9.5 mph	5.5 mph	5.0 mph	4.5 mph	
5	1541	C	At 0119, on 10 September, you pass Springfield Bend Lt. (mile 244.8 AHP) and estimate the current will average 2.5 mph for the remainder of your trip. What is your ETA at the mouth of the Ohio River if you are making turns for 8.5 mph?	1746, 12 September	1244, 13 September	2329, 14 September	0210, 15 September	
5	1542	B	You are turning for 6.8 mph and estimate the current at 1.0 mph. What is your speed over the ground?	6.8 mph	7.8 mph	8.8 mph	9.4 mph	
5	1543	C	As you pass under the Natchez-Vidalia Dual Bridge, the gage on the bridge reads -3.6 feet. If the highest point on your vessel is 62 ft. above the water, what is your vertical clearance?	60.0 feet	63.6 feet	67.6 feet	122.0 feet	
5	1544	D	What is the distance in river miles, from the new mouth of the White River to the Petroleum Fuel & Terminal Co.(144.6 AHP)?	370 miles	384 miles	437 miles	454 miles	
5	1545	D	You are downbound, passing by Warfield Point Lt. (mile 537 AHP), when you observe on your Mississippi River map several black lines extending into the river from the bank. These indicate _____.	revetments	weirs	fleeting areas	dikes	
5	1546	C	As you pass under the Vicksburg Bridges, you estimate the current as 3.0 mph. What is the speed over the ground, if your vessel is making turns for 10.5 mph?	7.5 mph	10.5 mph	13.5 mph	16.5 mph	
5	1547	B	At 0509, on 26 December, you pass under the Helena Highway Bridge (mile 661.7 AHP). What has been the average speed of the current since departing Memphis Harbor, McKellar Lake, if you have been making turns for 7.5 mph?	5.6 mph	4.4 mph	2.1 mph	1.8 mph	

5	1548	D	As you approach Buckridge Light (mile 412.5 AHP), which type of daymark would you see on the light structure?	Red diamond	Red triangle	Green diamond	Green square	
5	1564	D	As you approach Dean Island Light (mile 754.8 AHP), which type of daymark will be observed at the light?	Green triangle	Red and green banded square	Green square daymark	Diamond-shaped green daymark	
5	1565	C	Which of the following statements concerning the buoys on the Mississippi River is TRUE?	The position of river buoys can be determined by consulting the latest Light List - Vol. V.	A preferred channel mark is a lateral mark indicating a channel junction which must always be passed to starboard.	Setting a buoy is the act of placing a buoy on assigned position in the water.	None of the above.	
5	1622	D	Which of the following statements concerning the buoys on the Mississippi River is TRUE?	The position of river buoys can be determined by consulting the latest Light List - Vol. V.	A preferred channel mark is a lateral mark indicating a channel junction which must always be passed to starboard.	Buoys should be passed as close as possible.	Setting a buoy is the act of placing a buoy on assigned position in the water.	
5	1642	C	From your 2129 position you reduce engine speed to 14 knots. What is the course to make good from your 2129 position to arrive 0.3 mile north of Lighted Whistle Buoy "NCA" (LL#375) assuming no set and drift?	216°T	219°T	222°T	225°T	
5	1643	D	Which facility is located on the right descending bank at mile 363.6 AHP?	River Cement Corps..	Bunge Corps..	T.L. James	Vidalia Dock and Storage Co.	
5	1644	A	From your 2207 position you adjust your course to arrive 0.3 mile north of Lighted Whistle Buoy "NCA". If you make good 14 knots, at what time will Cape Charles Light be abeam?	2242	2245	2247	2250	
5	1650	B	On 22 October , in DR position LAT 21°51.0'S, LONG 76°24.0'E, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 256°psc. The chronometer reads 01h 01m 25s and is 01m 15s fast. Variation for the area is 2°E. What is the deviation of the standard magnetic compass?	0.3°E	0.3°W	2.0°E	2.0°W	

5	1651	C	On 23 October , in DR position LAT 21°13.0'N, LONG 152°18.0'E, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 259°psc. The chronometer reads 07h 21m 46s and is 01m 32s slow. Variation in the area is 5°E. What is the deviation of the magnetic compass?	0.9°E	1.5°W	5.9°W	6.5°E
5	1652	D	On 16 April , in DR position LAT 28°07.0'N, LONG 81°47.0'W, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 073.5°psc. The chronometer reads 10h 53m 41s and is 02m 23s slow. Variation in the area is 11°E. What is the deviation of the magnetic compass?	4.5°E	4.9°W	6.1°E	6.5°W
5	1653	D	On 28 Sept. , in DR position LAT 24°12.0'S, LONG 85°25.0'E, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 094°psc. The chronometer reads 11h 29m 42s and is 03m 30s slow. Variation in the area is 4°W. What is the deviation of the magnetic compass?	1.5°W	2.1°W	1.8°E	2.4°E
5	1654	B	On 28 September , in DR position LAT 27°16.7'S, LONG 113°27.2'W, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 273°psc. The chronometer reads 01h 17m 26s and is 01m 49s slow. Variation in the area is 6°W. What is the deviation of the standard magnetic compass?	0.2°W	0.4°E	0.6°W	0.8°E
5	1658	C	On 23 August , in DR position LAT 24°07.0'N, LONG 136°16.0'E, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 074.5°psc. The chronometer reads 08h 56m 19s and is 02m 34s fast. Variation in the area is 2°W. What is the deviation of the magnetic compass?	2.5°E	2.8°W	4.5°E	4.8°W

5	1659	B	<p>On 15 July , in DR position LAT 22°19.0'N, LONG 154°37.0'W, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 298°psc. The chronometer reads 04h 45m 19s and is 01m 56s slow. Variation in the area is 7.5°W. What is the deviation of the standard magnetic compass?</p>	2.7°W	3.0°E	3.6°W	3.9°E
5	1660	C	<p>On 23 June , in DR position LAT 21°39.0'S, LONG 106°28.0'W, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 078°psc. The chronometer reads 02h 14m 39s and is 01m 43s slow. Variation in the area is 9°W. What is the deviation of the standard magnetic compass?</p>	2.8°E	3.9°W	4.3°W	4.6°E
5	1661	B	<p>On 11 May , in DR position LAT 28°13.7'N, LONG 168°36.3'E, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 283°psc. The chronometer reads 07h 13m 19s and is 02m 56s slow. Variation in the area is 13°E. What is the deviation of the standard magnetic compass?</p>	5.2°W	5.6°W	7.4°E	7.8°E
5	1662	C	<p>On 5 September , in DR position LAT 23°17.0'S, LONG 154°35.0'E, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 275° per standard magnetic compass. The chronometer reads 07h 49m 26s and is 01m 52s fast. Variation in the area is 3°W. What is the deviation of the standard magnetic compass?</p>	2.1°E	2.4°W	5.1°E	5.4°W
5	1663	A	<p>On 7 April , in DR position LAT 27°42.0'N, LONG 114°03.0'W, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 076°psc. The chronometer reads 02h 10m 17s and is 01m 52s slow. Variation in the area is 8°E. What is the deviation of the standard magnetic compass?</p>	1.8°W	2.3°E	6.2°E	7.8°W

5	1664	A	On 10 February in DR position LAT 25°32.0'N, LONG 135°15.0'E, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 109°psc. The chronometer reads 09h 43m 25s and is 03m 20s fast. Variation in the area is 4.5°W. What is the deviation of the standard magnetic compass?	1.6°E	2.9°W	10.5°E	30.5°W
5	1665	A	On 11 January, your vessel's 0655 zone time DR position is LAT 24°30'N, LONG 122°02'W, when an amplitude of the Sun is observed. The Sun's center is on the celestial horizon and bears 101.0° per standard compass. Variation in the area is 11.6°E. The chronometer reads 02h 52m 48s and is 02m 12s slow. What is the deviation of the standard compass?	1.4°E	1.4°W	4.6°E	4.6°W
5	1666	D	On 23 October, your vessel's 1722 zone time DR position is LAT 27°36'S, LONG 96°16'W, when an amplitude of the Sun is observed. The Sun's lower limb is about 20 minutes of arc above the visible horizon and bears 246° per standard compass. Variation in the area is 14.0°E. The chronometer reads 11h 24m 19s and is 01m 43s fast. What is the deviation of the standard compass?	2.3°E	2.7°E	2.7°W	3.1°W
5	1667	A	On Sunday, 8 November, your ship is enroute from Texas City, TX, to Portland, ME. At 0632 ZT, you fix your position by Loran at LAT 27°06'N, LONG 90°36'W. When the lower limb of the Sun was two-thirds of a diameter above the visible horizon, the Sun bore 105° per standard magnetic compass. At this time the chronometer read 12h 39m 20s and is 3m 20s slow. If the variation is 3°E, determine the deviation of the standard compass.	0.8°E	0.8°W	3.8°E	3.8°W

5	1668	D	On 20 June , your vessel's 1955 ZT DR position is LAT 52°38.9'N, LONG 03°42.7'E, when an amplitude of the Sun is observed. The Sun's center is on the visible horizon and bears 311° per gyrocompass. Variation in the area is 6°W. At the time of the observation, the helmsman noted that he was heading 352° per gyrocompass and 358° per steering compass. What is the gyro error and deviation for that heading?	1.3°W GE, 1.3°E DEV	0.0° GE, 0.0° DEV	1.3°W GE, 1.3°W DEV	1.3°E GE, 1.3°E DEV
5	1669	D	On 19 June , your vessel's 0523 ZT DR position is LAT 25°12.0'N, LONG 123°14.0'W, when an amplitude of the Sun is observed. The Sun's center is on the visible horizon and bears 052.0° per standard compass. Variation in the area is 15°E. The chronometer reads 01h 21m 58s and is 01m 18s slow. What is the deviation of the standard compass?	1.4°E	1.4°W	1.7°W	3.3°W
5	1670	C	On 10 August , your vessel's 0426 zone time DR position is LAT 52°07'N, LONG 142°16'E, when an amplitude of the Sun is observed. The Sun's lower limb is about 20 minutes of arc above the visible horizon and bears 074.5° per standard compass. Variation in the area is 12°W. The chronometer reads 07h 24m 19s and is 02m 34s fast. Which of the following is the deviation of the standard compass?	0.0°	1.3°W	1.3°E	2.3°W
5	1671	A	On 9 May , your vessel's 1809 ZT DR position is LAT 48°13.7'N, LONG 168°36.3'E, when an amplitude of the Sun is observed. The Sun's center is on the celestial horizon and bears 283.7° per standard magnetic compass. Variation in the area is 13.0°E. The chronometer reads 07h 13m 19s and is 02m 56s fast. What is the deviation of the standard compass?	0.1°W	1.1°W	1.1°E	1.9°W

5	1672	C	On 11 May , your vessel's 1839 ZT position is LAT 17°30'N, LONG 63°55'W, when an amplitude of the Sun's center is observed on the celestial horizon bearing 301° per standard magnetic compass. Variation for this area is 10.5°W. The chronometer reads 10h 37m 10s and is 02m 08s slow. What is the deviation of the compass?	2.5°W	2.0°W	1.5°W	2.0°E
5	1673	A	On 17 April , your vessel's position is LAT 21°00'S, LONG 78°30'W, when an amplitude of the Sun is observed. The Sun's center is on the celestial horizon and bears 082.7° per standard magnetic compass. Variation in the area is 2.0°W. The chronometer reads 10h 59m 24s and is 01m 24s fast. What is the deviation of the compass?	2.0°W	3.0°W	2.5°E	3.0°E
5	1674	A	On 4 July , your vessel's 1722 zone time DR position is LAT 34°30'S, LONG 174°48'E, when an amplitude of the Sun is observed. The sun's center is on the visible horizon and bears 282° per standard magnetic compass. Variation in the area is 17.2°E. The chronometer reads 05h 21m 48s and is 02m 01s fast. What is the deviation of the compass?	1.5°W	2.0°W	1.5°E	2.0°E
5	1675	A	On 28 November , your vessel's 0652 DR position is LAT 37°30'N, LONG 124°12'W, when an amplitude of the Sun is observed. The Sun's center is on the visible horizon and bears 103° per standard magnetic compass. Variation in the area is 16.3°E. The chronometer reads 02h 54m 18s and is 02m 06s fast. What is the deviation of the compass?	2.5°W	3.0°W	2.0°E	3.0°E
5	1676	D	On 10 June , your vessel's 0519 zone time DR position is LAT 27°07.0'N, LONG 92°10.0'W, when an amplitude of the Sun is observed. The Sun's center is on the visible horizon and bears 063.6° per standard magnetic compass. The variation in the area is 4.8°E. The chronometer reads 11h 17m 32s and is 01m 18s slow. What is the deviation of the compass?	5.6°E	4.8°E	4.2°W	4.8°W

5	1677	D	On 23 August , at 0604 ZT, in DR position LAT 16°42.3'S, LONG 28°19.3'W, you observed an amplitude of the Sun. The lower limb was a little above the horizon, and the Sun bore 076.0°pgc. At the time of the observation, the helmsman reported that he was heading 143°pgc and 167° per standard magnetic compass. The variation in the area was 23°W. What were the gyro error and deviation for that heading?	1°W GE, 2°W DEV	1°E GE, 1°E DEV	2°W GE, 1°E DEV	2°E GE, 1°E DEV
5	1678	A	On 2 January , your vessel's 1948 zone time loran position is LAT 21°42'S, LONG 39°12'W, when an amplitude of the Sun is observed. The Sun's center is on the celestial horizon and bears 260° per standard magnetic compass. Variation in the area is 19°W. The chronometer reads 10h 44m 36s and is 03m 24s slow. What is the deviation of the standard magnetic compass?	4.3°E	4.3°W	5.1°E	5.1°W
5	1679	B	On 13 October , your vessel's 1722 zone time DR position is LAT 27°36'S, LONG 136°16'E, when an amplitude of the Sun is observed. The Sun's center is on the celestial horizon and bears 266° per standard magnetic compass. Variation in the area is 2°W. The chronometer reads 08h 24m 19s and is 01m 43s fast. What is the deviation of the standard magnetic compass?	2.3°E	2.8°W	4.8°E	6.8°W
5	1680	B	On 31 October , your 1700 zone time DR position is LAT 27°17.0'N, LONG 116°10.0'W, when an amplitude of the Sun is observed. The Sun's center is on the visible horizon and bears 246.5° per standard magnetic compass. Variation in the area is 8.5°E. The chronometer reads 01h 01m 23s and the chronometer error is 01m 54s slow. What is the deviation of the standard compass?	0.8°E	0.8°W	2.5°E	2.5°W

5	1681	D	On 8 December , in DR position LAT 21°56.1'S, LONG 17°21.6'E you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 240.5°psc. The chronometer reads 05h 27m 21s and is 00m 47s fast. Variation in the area is 3.3°E. What is the deviation of the standard magnetic compass?	1.5°W	0.3°W	0.6°E	1.5°E	
5	1682	B	On 11 May , in DR position LAT 37°06.0'N, LONG 45°45.0'W you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 089.0°psc. The chronometer reads 07h 57m 06s and is 01m 48s slow. Variation in the area is 20.0°W. What is the deviation?	3.6°W	2.2°W	1.4°W	3.6°E	
5	1683	D	You are taking a time tick using the 1930 signal from Rio de Janeiro, Brazil. You hear the preparatory signal "CQ DE PPE" repeated several times followed by a short dash (0.4 sec), 60 dots (0.1 sec each) and another short dash. At the beginning of the last dash, the comparing watch reads 07h 30m 08s. When compared to the chronometer, the comparing watch reads 07h 31m 48s, and the chronometer reads 07h 32m 16s. What is the chronometer error?	0m 28s slow	1m 40s slow	0m 08s fast	0m 36s fast	
5	1684	D	You are passing Putney Lt. (mile 943.6 AHP). The gray shaded areas alongside the river represent _____.	levees	weirs	dikes	revetments	
5	1685	D	As you approach Buckridge Light (mile 412.5 AHP), which type of daymark would you see on the light structure?	Red square	Green square	Red diamond	Green diamond	
5	1686	D	Which light characteristics does Ben Burman Lt. (mile 235.0 AHP) have?	1 red flash every 5 seconds	2 white flashes every 5 seconds	2 green flashes every 5 seconds	2 red flashes every 5 seconds	
5	1687	C	What are the light characteristics of Greenwood Light (mile 288.6 AHP).	Fixed red light	1 red flash every 4 seconds	2 red flashes every 5 seconds	2 white flashes every 4 seconds	
5	1688	D	As you approach Ashland Light (mile 378.1 AHP), which type of daymark would you see on the light structure?	Green square	Green triangle	Red diamond	Red triangle	
5	1689	C	What daymark will you see as you approach Warnicott Bar Lt. (mile 351.3 AHP)?	Red diamond	Red triangle	Green square	White square	
5	1690	B	The locations of locks and dams can be found in the _____.	Army Corps. of Engineers maps	Light List	Local Notice to Mariners	Channel Report	

5	1700	B	As you approach French Point Light (mile 915.4 AHP), you see 2 daymarks on the structure. What significance do the daymarks have?	They indicate the starboard side of the channel from seaward and mid-channel fairway.	They indicate the starboard side of the channel from seaward and a channel crossing.	They indicate the port side of the channel from seaward and a range marking.	They indicate the port side of the channel and a channel crossing.	
5	1701	C	The latest available information on the channel conditions above Baton Rouge that includes the latest buoy information, as well as recommended courses, is found in the _____.	Corps. of Engineers maps	Waterways Journal	Local Notice to Mariners	Sailing Directions	
5	1702	A	You are upbound approaching Springfield Bend Lt. (mile 244.8 AHP) downriver from Profit Island. Which of the following statements is TRUE?	Profit Island Chute is closed to navigation.	Tow length must not exceed 600 feet to use Profit Island Chute.	Tows must navigate toward left ascending bank when passing Profit Island Chute.	Profit Island Chute is open to navigation and is a shortcut for single barge tows.	
5	1703	D	At 1218, on 16 March, you are passing the Vicksburg Gage (mile 437.0 AHP). What has been the average current since 0630, 15 March, if you have been making turns for 8.0 mph?	0.2 mph	0.5 mph	0.8 mph	1.2 mph	
5	1704	C	Which of the following statements regarding buoys on the Mississippi River is TRUE?	The positions of river buoys can be found in the latest edition of Light List-Vol. V.	The buoys are maintained on station year round.	Buoy positions on the chart are approximate.	The buoys do not shift positions due to permanent moorings.	
5	1705	B	What is the mile point of the Rosedale, MS Gage?	554.2 AHP	592.2 AHP	632.5 AHP	663.0 AHP	
5	1706	B	The highest point on your towboat is 53 feet above the water, and the Helena Gage (mile 663 AHP) reads 3.9 feet. What is the vertical clearance when you pass under the B-span of the Helena Highway Bridge in Helena?	59.9 feet	62.5 feet	64.1 feet	65.5 feet	
5	1707	D	You are passing the Memphis Gage at 0405, 18 March. If you are turning for 8 mph and estimate the current at 2.3 mph, what is your ETA at Cairo Point, IL (mile 954.5 AHP)?	0447, 19 Mar	1052, 19 Mar	1518, 19 Mar	1839, 19 Mar	
5	1708	D	At 0300 on 19 April, you pass under the Greenville Bridge (mile 531.3 AHP). What was your average speed since departing Amoco Pipeline Co. Docks (mile 253.6 AHP)?	6.2 mph	5.2 mph	4.8 mph	4.3 mph	
5	1709	C	A stretch where the channel changes from one side of the river to the other is called a _____.	bifurcation	transit	crossing	changeover	

5	1710	B	What is the width of the navigable channel at Columbus Pt. Light (mile 936.0 AHP)?	0.11 miles	0.39 miles	0.52 miles	0.70 miles	
5	1711	C	What is the length of the trip?	722.0 miles	953.8 miles	1097.9 miles	1332.1 miles	
5	1712	D	What is the distance from Cairo Point, IL, to Arkansas City?	28 miles	110 miles	218 miles	400 miles	
5	1720	C	As you approach mile 427.6 AHP, you see on the right side a white buoy with orange bands and open face diamond. This buoy shows _____.	safe water	preferred channel	danger	special marks	
5	1721	A	What is the total length of the trip?	850.6 miles	894.8 miles	922.5 miles	946.5 miles	
5	1722	B	You estimate the current as 2.0 mph. What is the speed over the ground?	4.5 mph	5.5 mph	7.5 mph	9.5 mph	
5	1723	D	You will pass the first gage at _____.	Profit Island	Bayou Sara	Baton Rouge	Red River Landing	
5	1724	D	What is the mile point of the Natchez, MS Gage?	228.4 AHP	265.4 AHP	302.4 AHP	363.3 AHP	
5	1725	C	As you pass Fort Adams (311.4 AHP) you observe a flashing amber light on the right descending bank ahead. This indicates that you should _____.	proceed with caution as there is construction work being done on the revetment	keep as close to the right descending bank as safety permits	keep as close to the left descending bank as safety permits	proceed with caution as the river is congested around the bend	
5	1726	A	The highest point on your towboat is 57 feet above water. The Natchez Gage (mile 363.3 AHP) reads 16.7 feet. What is the vertical clearance when you pass under the Natchez - Vidalia (westbound) Hwy. Bridge?	52.3 feet	59.9 feet	61.0 feet	68.6 feet	
5	1727	B	You pass under the Natchez bridge (mile 363.3 AHP) at 1300, on 27 March, and estimate the current to be 3.3 mph. What is your ETA at St. Louis if you continue to turn for 7.5 mph?	0617, 4 April	0316, 4 April	1153, 30 March	1253, 31 April	
5	1728	C	As you approach Canon Point Light (mile 418.3 AHP), what daymark will you see on the light structure?	Green square	Green diamond	Red diamond	Red triangle	
5	1729	B	Which light characteristics does Coggins Lt. (mile 429.5) have?	1 red flash every 4 seconds	1 white flash every 4 seconds	1 white flash every 5 seconds	2 white flashes every 4 seconds	
5	1730	A	What is the distance from Arkansas City, AR, to St. Louis, MO, on the Mississippi River System?	584 miles	617 miles	733 miles	832 miles	
5	1731	B	What is the total length of the trip?	910.6 miles	901.2 miles	900.3 miles	873.7 miles	
5	1732	B	You estimate the current at 2.0 mph. What is the speed over the ground?	3.5 mph	4.5 mph	7.5 mph	9.5 mph	
5	1733	C	What are the dimensions of the channel maintained at Baton Rouge, LA?	30 feet x 300 feet	40 feet x 300 feet	45 feet x 500 feet	30 feet x 500 feet	

5	1734	C	You pass Springfield Bend Lt. (mile 244.8 AHP) at 1242, on 17 October, and estimate the current will average 2.5 mph for the remainder of your trip. What is your ETA at the mouth of the Ohio River if you are making turns for 10.5 mph?	1905, 19 October	0207, 21 October	0519, 21 October	0847, 21 October	
5	1735	A	As you pass under the Natchez-Vidalia Dual Bridge, the gage on the bridge reads 3.6 feet. If the highest point on your vessel is 62 ft. above the water, what is your vertical clearance?	60.4 feet	63.6 feet	67.2 feet	122.0 feet	
5	1736	D	What are the color and shape of Joseph Henry Daymark at mile 445.2 AHP?	Red - Triangle	Green - Square	Green - Triangle	Red - Diaomond	
5	1737	C	At 1227, on 19 October, you pass under the Greenville Highway Bridge (mile 531.3 AHP). What speed must you average to arrive at Jimmy Hawken Light (mile 663.5 AHP) at 1045 the following day?	5.2 mph	5.6 mph	5.9 mph	6.3 mph	
5	1738	A	Which of the following statements regarding aids to navigation shown in the Corps. of Engineers map book is TRUE?	Buoys should always be given as wide a berth in passing as possible.	The U.S. Army Corps.. of Engineers is responsible for placing and maintaining all aids to navigation.	Buoy positions as shown on the chart are exact.	Lights and daymarks are always shown in their exact location.	
5	1739	D	The Delta-Friar Point revetment on the LMR extends from mile _____.	645.6 - 641.4 RDB	652.8 - 649.6 RDB	648.5 - 645.5 LDB	657.3 - 652.2 LDB	
5	1740	D	On what river is Ghent, Kentucky located?	Tennessee	Mississippi	Missouri	Ohio	
5	1741	D	You have received orders to proceed to the Amoco Pipeline Co. (mile 253.6 AHP) above Baton Rouge. If your vessel is making turns for 9 mph with an estimated average current of 1.5 mph, what is your ETA at the Amoco docks?	2044, 25 Aug	0214, 26 Aug	0745, 26 Aug	0845, 26 Aug	
5	1742	A	The highest point on your towboat is 32 feet above the water, and the Helena Gage reads +6.6 feet. What is the vertical clearance when you pass under the A-span of the Helena Highway Bridge?	80.8 feet	73.1 feet	68.0 feet	56.1 feet	

5	1743	C	You are in charge of a vessel that damages an aid to navigation established and maintained by the United States. Which statement is TRUE?	You must take the aid in tow and deliver it to the nearest Coast Guard, Marine Safety Office.	You must report the allision to the nearest Corps.. of Engineers Office.	You must report the accident to the nearest Officer in Charge, Marine Inspection.	You may wait until you reach your destination before reporting the allision to the U.S. Coast Guard.	
5	1744	B	At 1727, on 24 August, you pass under the Helena Highway Bridge (mile 661.7 AHP). What has been the average speed of the current since departing Memphis Harbor, McKellar Lake, if you have been making turns for 9 mph?	1.8 mph	2.3 mph	2.8 mph	3.6 mph	
5	1745	D	What is the distance in river miles, from the mouth of the Yazoo Diversion Canal to the RR and Hwy bridge at Baton Rouge, LA?	365 miles	310 miles	265 miles	203 miles	
5	1746	A	The Crooked River empties into which river?	Missouri	Mississippi	Tennessee	Ohio	
5	1747	C	As you pass under the Greenville Highway Bridge, you estimate the current as 3.5 mph. What is the speed over the ground, if your vessel is making turns for 9 mph?	14.5 mph	13.5 mph	12.5 mph	11.5 mph	
5	1748	D	As you approach Walnut Point Light (mile 522.5 AHP), which type of daymark would you see on the light structure?	Red triangle	Green diamond	Green square	Red diamond	
5	1749	C	Which light characteristics does Black Hawk Light (mile 318.3 AHP) have?	1 red flash every 4 seconds	1 green flash every 4 seconds	1 white flash every 4 seconds	2 white flashes every 5 seconds	
5	1750	B	In addition to the Army Corps. of Engineers maps, data on bridge clearances may be found in the _____.	Army Corps. of Engineers Regulations	Light List	Waterways Journal	Channel Report	
5	1751	C	At 1118, on 24 May, you pass Natchez Gage and estimate the current will average 3.0 mph for the remainder of the time on the Mississippi River. What is your ETA at Cairo, IL if you continue to turn for 10 mph?	0840, 26 May	2218, 26 May	2339, 27 May	0339, 28 May	
5	1752	B	After you get underway, what is the fourth river gage you will pass?	Head of Passes	Natchez	Bayou Sara	Red River Landing	
5	1753	D	The Bayou Sara Gage reads 5.25 feet. The low water reference plane (LWRP) for Bayou Sara is 5.25 feet. Which statement is TRUE?	This gage reading is at a higher elevation than the same reading on the Gage at Head of Passes.	The depth over revetment at Old River is 25.2 ft.	The depth over Old River Lock sill is greater than 11 ft.	River level is at the Low Water Reference plane	

5	1754	C	At 0715, on 24 May, you are abreast the St. Catherine Bar Lt. (mile 348.6 AHP). If you are turning for 8.0 mph, what has been the average current since you left Baton Rouge?	1.0 mph	1.4 mph	3.8 mph	4.4 mph	
5	1755	A	The U. S. Coast Guard facility at mile 361 AHP is represented by which numbered white square on your map?	8	11	12	13	
5	1756	D	You pass Hole in Wall Light at 1200, 24 May. What is your ETA off the Mhoon Landing Gage if you average 6.5 mph?	0152, 26 May	0426, 26 May	1128, 26 May	1221, 26 May	
5	1757	A	What town is located at mile 395 AHP?	St. Joseph	Belmont	St. James	Rodney	
5	1758	B	As you approach mile 425 AHP, you see a brown shaded area along the left descending bank. This represents _____.	weirs	a revetment	dikes	a fleeting area	
5	1759	A	The Greenville Gage reads 1.6 feet. The high point of your towboat is 54 feet above water. What is the vertical clearance as you pass under the Greenville Highway Bridge?	74.5 feet	64.2 feet	55.5 feet	44.4 feet	
5	1760	B	The area between Island 67 Upper Light (mile 623.1 AHP) and Sunflower Cut-off Foot Light (mile 624.8 AHP) is known as a _____.	transit	crossing	chute	slough	
5	1761	A	What is the length of the trip?	887.9 miles	878.9 miles	851.9 miles	726.0 miles	
5	1762	B	What are the dimensions of the Old River Lock on the Lower Old River (mile 304 AHP)?	1175 x 75 feet	1190 x 75 feet	1195 x 84 feet	1202 x 84 feet	
5	1763	C	At 2126, you pass Morganza Bend Light (mile 278.4 AHP). At 0226, 4 January, you pass Red River Landing Gage (mile 302.4 AHP). You have been turning for 7.5 mph. What is the current?	1.4 mph	1.8 mph	2.7 mph	6.2 mph	
5	1764	D	The Gage at Red River Landing reads 43.4 feet. The low water reference plane (LWRP) for Red River Landing, LA. Is 10.6 ft. How many feet is this above the low water reference plane?	10.6 ft	11.6 ft	22.2 ft	32.8 ft	
5	1765	A	The river will be temporarily closed to navigation at mile 531.3 AHP due to repairs to the bridge. This will occur at 1530, 5 January, and last for six hours. What minimum speed over the ground must you make from Red River Landing Gage in order not to be delayed?	6.2 mph	6.4 mph	6.8 mph	7.3 mph	

5	1766	D	What type of daymark will you see as you approach Black Hills Light (mile 337.7 AHP)?	Private aid - no daymark	Red square	Red diamond	Red triangle	
5	1767	A	What is the vertical clearance of the Natchez-Vidalia Highway Bridge when the Natchez-Vidalia Highway Bridge Gage reads 23.4 feet?	102.6 ft	108.3 ft	119.5 ft	125.6 ft	
5	1768	B	The Natchez Gage reads 14.5 feet. The high point on your towboat is 47 feet above the water. What is the vertical clearance as you pass under the Natchez - Vidalia Highway Bridge?	58.0 feet	64.5 feet	72.5 feet	78.6 feet	
5	1769	D	In order to determine what buoys, if any, are in place at Concordia Bar crossing (mile 596.0 AHP), what should you check?	Bulletin board at the Rosedale Gage	Waterways Journal	Light List	Notice to Mariners	
5	1770	C	What are the light characteristics of the Bunge Corporation Terminal Lights (2) at mile 570.6 AHP?	a group flashing white light every five seconds	a flashing green light every 4 seconds	a flashing green light every 6 seconds	a flashing red light every 4 seconds	
5	1771	C	You are turning for 7.8 mph and estimate the current at 1.0 mph. What is your speed over the ground?	6.8 mph	7.8 mph	8.8 mph	9.8 mph	
5	1772	D	What is your ETA at the Fulton Gage?	1405, 12 Sept	1052, 12 Sept	0828, 12 Sept	0204, 12 Sept	
5	1773	A	What daymark should you see as you approach French Point Light (mile 915.4 AHP)?	Red triangle	Green triangle	Red diamond	Green diamond	
5	1774	A	You pass New Madrid, MO (mile 889.0 AHP) at 1412. What was your average speed since leaving Cairo?	8.0 mph	7.8 mph	7.6 mph	7.3 mph	
5	1775	B	At 1412 you increase speed to make good 10.2 mph. At 1506 you have a daymark on your port beam. Which daymark is this?	Bessie Daymark	Nolan Light	Everetts Light	Marr Towhead Light	
5	1776	D	At 2231 ZT, on 14 July, in DR position LAT 34°06'S, LONG 149°47'W you observe an amplitude of Jupiter. The planet is about one Sun's diameter above the visible horizon and bears 257.1°psc. The variation is 15°E. What is the deviation?	0.5°E	0.5°W	1.5°W	2.5°W	
5	1777	A	At 2232 ZT, on 14 July, in DR position LAT 33°52'S, LONG 150°03'W you observe an amplitude of Jupiter. The planet is about one Sun's diameter above the visible horizon and bears 268.5°psc. The variation is 15°E. What is the gyro error?	1.0°E	0.5°E	0.0°	0.5°W	

5	1778	C	At 2234 ZT, on 14 July , in DR position LAT 34°03'N, LONG 150°16'W you observe an amplitude of Saturn. The planet is about one Sun's diameter above the visible horizon and bears 272.1°pgc. The variation is 14°E. What is the gyro error?	0.5°W	0.5°E	1.5°W	2.5°E
5	1779	A	At 2237 ZT, on 14 July , in DR position LAT 33°57'N, LONG 150°32'W you observe an amplitude of Saturn. The planet is about one Sun's diameter above the visible horizon and bears 258.6°psc. The variation is 14°E. What is the deviation?	2.0°W	1.0°W	0.0°	1.0°E
5	1780	B	At 1523 ZT, on 14 June , in DR position LAT 31°58'S, LONG 48°42'W you observe an amplitude of the Moon. The center of the Moon is on the visible horizon and bears 118.0°psc. The variation is 10°W. What is the deviation?	2.5°W	2.1°W	1.7°W	1.7°E
5	1781	D	At 1524 ZT, on 14 June , in DR position LAT 30°51'N, LONG 30° 02'W, you observe an amplitude of the Moon. The center of the Moon is on the visible horizon and bears 103.9°pgc. The variation is 10°W. What is the gyro error?	1.8°W	2.4°E	2.2°E	2.0°E
5	1782	A	At 2043 ZT, on 13 October , in DR position LAT 43°57.3'S, LONG 147°16.0'E, you observe an amplitude of Venus. The planet is about one Sun's diameter above the horizon and bears 236.2°pgc. The variation is 15°E. What is the gyro error?	0.0°	0.9°E	1.8°E	0.4°W
5	1783	C	At 2048 ZT, on 13 October , in DR position LAT 44°02.8'S, LONG 146°58.3'E, you observe an amplitude of Venus. The planet is about one Sun's diameter above the visible horizon and bears 222.2°psc. The variation is 15°E. What is the deviation?	0.0°	1.1°E	1.0°W	1.5°W
5	1801	C	What is the distance from the Amoco Docks at Baton Rouge, LA, to the new mouth of the White River?	981.5 miles	953.5 miles	345.3 miles	700.2 miles

5	1802	D	You are turning for 10 mph and passing Hog Point ,LA. Angola reports that the current at Red River Landing is 4.5 mph. Which statement is TRUE?	The main channel lies on the north side of the island you see ahead.	You are making 14.5 mph over the ground.	You would expect to find the more favorable current near the broken red line in the river.	You should expect to encounter vessels crossing the river at mile 300.5 AHP.	
5	1803	C	As you approach Shreves cut-off you see Red River Landing Gage (mile 302.4 AHP) which reads 4.2 feet. The Low Water Reference Plane (LWRP) is 10.6 feet. Which of the following statements is TRUE?	This reading is 6.4 feet above the Low Water Reference Plane.	A vessel drawing 8 ft would be able to pass over the sill at Old River Lock	This reading is 6.4 feet below the Low Water Reference Plane.	A vessel drawing 7 ft. would be able to pass through the locks at Lower Old River.	
5	1804	A	You pass Red River Gage at 2015 on 16 April and estimate the current will average 3.0 mph for the remainder of the time on the Mississippi River. What is your ETA at the mouth of the Ohio River if you continue to turn for 10 mph?	1718, 20 April	1830, 20 April	0028, 21 April	0821, 21 April	
5	1805	D	What is the vertical clearance between the highest point of your towboat, if it is 48 feet above the water, and if the Natchez Gage reads 20.1 feet when passing under the Natchez Upper Highway Bridge?	35.9 feet	43.2 feet	49.3 feet	57.9 feet	
5	1806	B	In high water conditions, which publication would you consult for the latest information on buoys between Baton Rouge and Cairo?	U.S.C.G. Light List	U.S.C.G. Local Notice to Mariners	Army Corps. of Engineers Navigation Chart	List of Buoys and Daymarks	
5	1807	A	As you approach Hole in the Wall Light (mile 373.4 AHP), what type of daymark would you see on the light structure?	Green square	Green diamond	Red diamond	Red square	
5	1808	D	You are on map #4. What is the mile point of the facility known as Gulf Coast Grain Co.?	mile 920 AHP	mile 921 AHP	mile 922 AHP	mile 923 AHP	
5	1809	C	Which daymark would you see at Shields Bar Lt. (mile 882.2 AHP)?	Red triangle	Green triangle	Red diamond	Green square	
5	1810	A	You are turning for 9 mph, approaching Fort Adams Lt. (mile 311.4 AHP) and it is reported that the current at Knox Landing is estimated at 4.5 MPH. Which of the following statements is TRUE?	Tows and other vessels should navigate as close to the left descending bank as safety will permit.	The inflow channel is a navigable channel for any vessel.	You are making 13.5 mph over the ground.	Old River Control Structure Light and Fort Adams Light may be used as range lights when entering the outflow channel.	

5	1811	A	Where would you find out which buoys, if any, are in place at Concordia Bar crossing (mile 596.0 AHP)?	Notice to Mariners	Bulletin board at the Rosedale Gage	Waterways Journal	None of the above	
5	1831	C	You pass Warnicott Bar Lt. at 1146, 24 May. What is your ETA off the Mhoon Landing Gage if you average 6.5 mph?	0152, 26 May	0426, 26 May	1528, 26 May	0909, 27 May	
5	1832	C	Where can scheduled broadcast times of river stages be found?	Sailing Directions	List of Lights	Light List	Coast Pilot	
5	1833	C	What are the dimensions of the Port Allen Lock at Baton Rouge, LA?	75 feet x 1188 feet	84 feet x 1180feet	84 feet x 1188 feet	75 feet x 1180 feet	
5	1834	C	Which type of daymark would you see on the Belle Island Corner Lt. at mile 458.6 AHP?	Green diamond	Green square	Red diamond	Red triangle	
5	1835	B	The Vaucluse Trench fill revetment on the LMR extends from mile _____.	524.3 - 522.6 RDB	535.6 - 532.9 RDB	535.9 - 534.3 LDB	534.3 - 532.6 LDB	
5	1836	C	Which daymark should you see as you approach French Point Light (mile 915.4 AHP)?	Green diamond	Green square	Red triangle	Red diamond	
5	1837	A	The Arkansas City Yellow Bend revetment on the LMR extends from mile _____.	555.0-549.7 RDB	549.0-548.5 RDB	556.9-554.9 LDB	548.5-546.5 LDB	
5	1838	B	What is the distance from Baton Rouge, LA, to St. Louis, MO, on the Mississippi River System?	1038 miles	916 miles	690 miles	352 miles	
5	1839	D	What are the dimensions of the channel maintained from Baton Rouge to New Orleans, LA?	30 feet x 300 feet	40 feet x 300 feet	30 feet x 500 feet	45 feet x 500 feet	
5	1841	C	At 0509, on 26 December, you pass under the Helena Highway Bridge (mile 661.7 AHP). What has been the average speed of the current since departing Memphis Harbor, McKellar Lake, if you have been making turns for 7.5 mph?	1.8 mph	2.1 mph	4.4 mph	5.6 mph	
5	1842	D	What town is located at mile 389.8 AHP?	Whitehall	Belmont	St. James	Rodney	
5	1851	A	On 23 September , while taking stars for an evening fix, an unidentified star is observed bearing 261°T at an observed altitude of 61°35'. Your 1836 zone time DR position is LAT 25°18'S, LONG 162°36'E. The chronometer reads 07h 34m 12s, and the chronometer error is 01m 54s slow. Your vessel is steaming on a course of 230°T at a speed of 18 knots. What star did you observe?	Antares	Canopus	Achernar	Sirius	

5	1852	A	On 26 November , at 0535 ZT, while taking sights for a morning fix, you observe an unidentified planet bearing 074°T at an observed altitude (Ho) of 38°29.8'. Your DR position is LAT 27°18.9'S, LONG 30°18.4'E. The chronometer time of the sight is 03h 33m 16s, and the chronometer is 01m 48s slow. What planet did you observe?	Saturn	Jupiter	Mars	Venus	
5	1853	D	On 8 April , while taking observations for an evening fix, you observe an unidentified star bearing 250.7°T at an observed altitude of 51°44.8'. Your DR position at the time of the sight was LAT 22°16.0'N, LONG 157°58.3'W. The chronometer reads 05h 09m 57s and is 01m 23s slow. What star did you observe?	Betelgeuse	Aldebaran	Alnilam	Bellatrix	
5	1854	D	On 22 July , your 1759 ZT DR position is LAT 24°50.2'S, LONG 05°16.0'E. You observe an unidentified star bearing 231°T, at an observed altitude (Ho) of 26°10.0'. The chronometer reads 06h 01m 31s and is 02m 15s fast. What star did you observe?	Acamar	Capella	Miaplacidus	Suhail	
5	1855	C	On 22 July , your 0442 ZT DR position is LAT 26°35.6'N, LONG 22°16.7'W. You observe an unidentified star bearing 112°T, at an observed altitude (Ho) of 44°16.0'. The chronometer reads 05h 39m 03s and is 03m 14s slow. What star did you observe?	Hamal	Rigel	Menkar	Acamar	
5	1856	B	On 22 June , your 0424 ZT DR position is LAT 26°18.5'N, LONG 124°18.2'W. You observe an unidentified star bearing 031°T at an observed altitude (Ho) of 49°26.0'. The chronometer reads 00h 23m 24s and is 01m 32s slow. What star did you observe?	Peacock	Schedar	Ankaa	Alioth	
5	1857	A	On 22 May , your 0437 ZT DR position is LAT 25°18.5'N, LONG 51°18.0'W. You observe an unidentified star bearing 097°T at an observed altitude (Ho) of 48°20.0'. The chronometer reads 07h 40m 40s and is 03m 24s fast. What star did you observe?	Markab	Diphda	Sabik	Hamal	

5	1858	C	On 22 April , your 1852 ZT DR position is LAT 23°54.5' N, LONG 117°36.8'W. You observe an unidentified star bearing 129°T at an observed altitude (Ho) of 27°10.0'. The chronometer reads 02h 54m 53s and is 02m 51s fast. What star did you observe?	Diphda	Betelgeuse	Gienah	Arcturus
5	1859	B	On 22 March , your 0519 ZT DR position is LAT 27°20.6'N, LONG 69°25.6'W. You observe an unidentified star bearing 094°T, at an observed altitude (Ho) of 30°15.0'. The chronometer reads 10h 16m 47s and is 02m 15s slow. What star did you observe?	Acamar	Enif	Menkar	Rigel
5	1860	D	On 22 March , your 1834 ZT DR position is LAT 26°13.5'S, LONG 108°36.5'W. You observe an unidentified star bearing 077°T, at an observed altitude (Ho) of 43°10.5'. The chronometer reads 01h 32m 37s and is 01m 50s slow. What star did you observe?	Regulus	Menkar	Rigel	Alphard
5	1861	B	On 22 February , your 1857 ZT DR position is LAT 23°46.0'S, LONG 93°16.5'E. You observe an unidentified star bearing 159°T, at an observed altitude (Ho) of 34°30.0'. The chronometer reads 01h 00m 35s and is 03m 25s fast. What star did you observe?	Adhara	Miaplacidus	Avior	Suhail
5	1862	B	On 14 January , your 0550 ZT DR position is LAT 25°26.0'N, LONG 38°16.0'W. You observe an unidentified star bearing 004.5°T, at an observed altitude (Ho) of 40°10.0'. The chronometer reads 08h 48m 51s and is 01m 22s slow. What star did you observe?	Gienah	Kochab	Gacrux	Eltanin
5	1863	A	On 14 January , your 1922 ZT DR position is LAT 27°18.5'S, LONG 67°18.0'E. You observe an unidentified star bearing 029°T, at an observed altitude (Ho) of 29°35.0'. The chronometer reads 03h 25m 43s and is 03m 15s fast. What star did you observe?	Elnath	Fomalhaut	Pollux	Markab

5	1864	D	At 0520 zone time, on 17 March , while taking stars for a morning fix, you observe an unidentified star bearing 050°T, at an observed altitude (Ho) of 45°00.0'. Your DR position at the time of the sight is LAT 27°23.0'N, LONG 39°42.0' W. The chronometer time of the sight is 08h 22m 15s, and the chronometer error is 01m 45s fast. Your vessel is steaming on a course of 300°T at a speed of 18 knots. What star did you observe?	Altair	Alkaid	Arcturus	Deneb
5	1866	D	On 12 June , your 1845 DR position is LAT 21°47'N, LONG 46°52'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 019.0°T at a sextant altitude (hs) of 53°56.2'. The index error is 0.5' on the arc, and the height of eye is 45 feet. The chronometer reads 09h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Phecda	Mimosa	Gamma Ursae Minoris	Mizar
5	1867	B	On 12 June , your 1845 DR position is LAT 21°47'N, LONG 46°52'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 162°T at a sextant altitude (hs) of 28°36.5'. The index error is 0.5' on the arc, and the height of eye is 45 feet. The chronometer reads 09h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Gamma Virginis	Iota Centauri	Spica	Mimosa
5	1868	C	On 12 June , your 1945 DR position is LAT 21°47.0'N, LONG 46°52.0'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 130°T at a sextant altitude (hs) of 45°21.2'. The index error is 0.5' on the arc, and the height of eye is 45 feet. The chronometer reads 10h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Theta Carinae	Epsilon Leonis	Beta Librae	Zeta Puppis

5	1869	B	On 12 June , your 1845 DR position is LAT 21°47'N, LONG 46°52'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 282.5°T at a sextant altitude (hs) of 14°22.3'. The index error is 0.5' on the arc, and the height of eye is 45 feet. The chronometer reads 09h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Wezen	Alhena	Mirzam	Menkalinan
5	1870	A	On 12 June , your 1845 DR position is LAT 21°47'N, LONG 46°52'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 313°T at a sextant altitude (hs) of 14°56.3'. The index error is 0.5' on the arc, and the height of eye is 45 feet. The chronometer reads 09h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Menkalinan	Mirzam	Theta Aurigae	Alnitak
5	1871	D	On 12 June , your 1845 DR position is LAT 21°47'N, LONG 46°52'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 270°T at a sextant altitude (hs) of 65°41.7'. The index error is 0.5' on the arc, and the height of eye is 45 feet. The chronometer reads 09h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Epsilon Leonis	Scheat	Merak	Algeiba
5	1872	D	On 12 June , your 1845 DR position is LAT 21°47'N, LONG 46°52'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 031°T at a sextant altitude (hs) of 70°10.3'. The index error is 0.5' on the arc, and the height of eye is 45 feet. The chronometer reads 09h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Sheratan	Ruchbah	Mimosa	Cor Caroli

5	1873	A	On 12 June , your 1845 DR position is LAT 21°47'N, LONG 46°52'W when you observe a faint unidentifiable star through a break in the clouds. The star bears 174.0°T at a sextant altitude (hs) of 18°58.6'. The index error is 0.5° on the arc, and the height of eye is 45 feet. The chronometer reads 09h 43m 27s, and the chronometer error is 1m 46s slow. What star did you observe?	Muhlifain	Alpha Hydri	Almak	Alpha Muscae
5	1874	B	On 2 October , your 1845 DR position is LAT 28°09.2'S, LONG 167°48.1'E. You observe a faint star through a hole in the clouds at a sextant altitude (hs) of 25°19.4' bearing 273°T. The index error is 1.3' off the arc, and the height of eye is 42 feet. The chronometer reads 07h 46m 19s and is 0m 51s fast. What star did you observe?	Alpha Serpentis	Beta Librae	Beta Lupi	Epsilon Bootis
5	1875	A	On 2 October , your 1845 DR position is LAT 28°09.2'S, LONG 167°48.1'E. You observe a faint star through a hole in the clouds at a sextant altitude (hs) of 68°03.6' bearing 154°T. The index error is 1.3' off the arc, and the height of eye is 42 feet. The chronometer reads 07h 46m 19s and is 0m 51s fast. What star did you observe?	Alpha Indi	Epsilon Cygni	Gamma Aquilae	Albireo
5	1876	D	On 2 October , your 1845 DR position is LAT 28°09.2'S, LONG 167°48.1'E. You observe a faint star through a hole in the clouds at a sextant altitude (hs) of 11°37.6' bearing 066°T. The index error is 1.3' off the arc, and the height of eye is 42 feet. The chronometer reads 07h 46m 19s and is 0m 51s fast. What star did you observe?	Scheat	Ruckbah	Caph	Algenib
5	1877	A	On 2 October , your 1845 DR position is LAT 28°09.2'S, LONG 167°48.1'E. You observe a faint star through a hole in the clouds at a sextant altitude (hs) of 63°29.1' bearing 237.5°T. The index error is 1.3' off the arc, and the height of eye is 42 feet. The chronometer reads 07h 46m 19s and is 0m 51s fast. What star did you observe?	Kappa Scorpii	Beta Ophiuchi	Alpha Arae	Beta Draconis

5	1878	A	On 13 September , your 1830 ZT DR position was LAT 23°03'S, LONG 105°16'E when you observe a faint unidentifiable star through a hole in the clouds. The star bore 132.3°T at a sextant altitude (hs) of 29°34.6'. The chronometer read 11h 24m 39s and is 5m 08s slow. The index error is 1.0' off the arc, and the height of eye is 52 feet. What star did you observe?	Beta Gruis	Sigma Capricorni	Scheat	Alpha Indi
5	1879	D	On 13 September , your 1830 ZT DR position was LAT 23°03'S, LONG 105°16'E when you observed a faint unidentifiable star through a hole in the clouds. The star bore 351.5°T at a sextant altitude (hs) of 62°05.6'. The chronometer read 11h 24m 39s and is 5m 08s slow. The index error is 1.0' off the arc, and the height of eye is 52 feet. What star did you observe?	Alpha Herculis	Kappa Scorpii	Alpha Arae	Beta Ophiuchi
5	1880	C	On 13 September , your 1830 ZT DR position was LAT 23°03'S, LONG 105°16'E when you observed a faint unidentifiable star through a hole in the clouds. The star bore 265.0°T at a sextant altitude (hs) of 62°25.4'. The chronometer read 11h 24m 39s and is 5m 08s slow. The index error is 1.0' off the arc, and the height of eye is 52 feet. What star did you observe?	Sigma Ophiuchi	Alcyone	Dschubba	Gamma Lupi
5	1881	B	On 13 September , your 1830 ZT DR position was LAT 23°03'S, LONG 105°16'E, when you observed a faint unidentifiable star through a hole in the clouds. The star bore 148.0°T at a sextant altitude (hs) of 32°24.3'. The chronometer read 11h 24m 39s and is 05m 08s slow. The index error is 1.0' off the arc, and the height of eye is 52 feet. What star did you observe?	Beta Gruis	Alpha Tucanae	Beta Aquarii	Alpha Indi

5	1882	C	On 2 October , your 1845 DR position was LAT 28°09.2'S, LONG 167°48.1'E. You observe a faint star through a hole in the clouds at a sextant altitude (hs) of 20°45.6' T, bearing 201.5°T. The index error is 1.3' off the arc, and the height of eye is 42 feet. The chronometer reads 07h 46m 19s and is 00m 51s fast. What star did you observe?	Cor Caroli	Muhlifain	Alpha Muscae	Beta Corvi	
5	1883	D	On 13 June , your 0445 DR position is LAT 20°12.0'N, LONG 44°45.0'W. You observe an unidentified star bearing 168°T at an observed altitude (Ho) of 38°56.0'. The chronometer reads 07h 43m 20s, and is 01m 39s slow. Which star did you observe?	Peacock	Ankaa	Al Na'ir	Fomalhaut	
5	1884	B	On 26 November , your 0535 DR position is LAT 27°18.9'S, LONG 30°18.4'E. You observe an unidentified planet bearing 085°T at an observed altitude (Ho) of 32°15.2'. The chronometer reads 03h 33m 16s, and is 01m 48s slow. What planet did you observe?	Saturn	Jupiter	Mars	Venus	
5	1885	C	On 26 November , your 0535 DR position is LAT 27°18.9'S, LONG 30°18.4'E. You observe an unidentified planet bearing 037°T at an observed altitude (Ho) of 50°06.4'. The chronometer reads 03h 33m 16s and is 01m 48s slow. What planet did you observe?	Saturn	Jupiter	Mars	Venus	
5	1886	A	On 8 April , your evening DR position is LAT 22°16'N, LONG 157°58.3'W. You observe an unidentified star bearing 246°T at an observed altitude (Ho) of 58°45.5'. The chronometer reads 05h 09m 57s, and is 01m 23s slow. What star did you observe?	Betelgeuse	Aldebaran	Alnilam	Bellatrix	
5	1887	B	On 8 April , your evening DR position is LAT 22°16.0'N, LONG 157°58.3'W. You observe an unidentified star bearing 271°T at an observed altitude (Ho) of 44°08.2'. The chronometer reads 05h 09m 57s, and is 01m 23s slow. What star did you observe?	Betelgeuse	Aldebaran	Alnilam	Bellatrix	

5	1888	C	On 8 April , your evening DR position is LAT 22°16.0'N, LONG 157°58.3'W. You observe an unidentified star bearing 238°T at an observed altitude (Ho) of 50°02.7'. The chronometer reads 05h 09m 57s, and is 01m 23s slow. What star did you observe?	Betelgeuse	Aldebaran	Alnilam	Bellatrix	
5	1889	A	On 22 July , your 1759 DR position is LAT 24°50.2'S, LONG 05°16.0'E. You observe an unidentified star bearing 293°T at an observed altitude (Ho) of 17°52.8'. The chronometer reads 06h 01m 31s, and is 02m 15s fast. What star did you observe?	Regulus	Antares	Miaplacidus	Suhail	
5	1890	B	On 22 July , your 1759 DR position is LAT 24°50.2'S, LONG 05°16.0'E. You observe an unidentified star bearing 100°T at an observed altitude (Ho) of 61°48.2'. The chronometer reads 06h 01m 31s, and is 02m 15s fast. What star did you observe?	Regulus	Antares	Miaplacidus	Suhail	
5	1891	C	On 22 July , your 1759 DR position is LAT 24°50.2'S, LONG 005°16.0'E. You observe an unidentified star bearing 203°T at an observed altitude (Ho) of 28°12.2'. The chronometer reads 06h 01m 31s, and is 02m 15s fast. What star did you observe?	Regulus	Antares	Miaplacidus	Suhail	
5	1892	A	On 22 July , your 0442 DR position is LAT 26°35.6'N, LONG 22°16.7'W. You observe an unidentified star bearing 091°T at an observed altitude (Ho) of 64°35.2'. The chronometer reads 05h 39m 03s, and is 03m 14s slow. What star did you observe?	Hamal	Rigel	Menkar	Acamar	
5	1893	B	On 22 July , your 0442 DR position is LAT 26°35.6'N, LONG 22°16.7'W. You observe an unidentified star bearing 104°T at an observed altitude (Ho) of 9°55.7'. The chronometer reads 05h 39m 03s, and is 03m 14s slow. What star did you observe?	Hamal	Rigel	Menkar	Acamar	

5	1894	D	On 22 July , your 0442 DR position is LAT 26°35.6'N, LONG 22°16.7'W. You observe an unidentified star bearing 149°T at an observed altitude (Ho) of 12°55.0'. The chronometer reads 05h 39m 03s, and is 03m 14s slow. What star did you observe?	Hamal	Rigel	Menkar	Acamar
5	1895	A	On 22 June , your 0424 DR position is LAT 26°18.5'N, LONG 124°18.2'W. You observe an unidentified star bearing 195°T at an observed altitude (Ho) of 03°30.7'. The chronometer reads 00h 23m 24s, and is 01m 32s slow. What star did you observe?	Peacock	Schedar	Ankaa	Alioth
5	1896	C	On 22 June , your 0424 DR position is LAT 26°18.5'N, LONG 124°18.2'W. You observe an unidentified star bearing 154°T at an observed altitude (Ho) of 15°01.2'. The chronometer reads 12h 23m 24s, and is 01m 32s slow. What star did you observe?	Peacock	Schedar	Ankaa	Alioth
5	1897	D	On 22 June , your 0424 DR position is LAT 26°18.5'N, LONG 124°18.2'W. You observe an unidentified star bearing 249°T at an observed altitude (Ho) of 52°50.7'. The chronometer reads 00h 23m 24s, and is 01m 32s slow. What star did you observe?	Peacock	Schedar	Ankaa	Altair
5	1898	D	On 22 May , your 0437 DR position is LAT 25°18.5'N, LONG 51°18.0'W. You observe an unidentified star bearing 142°T at an observed altitude (Ho) of 23°10.2'. The chronometer reads 07h 40m 40s, and is 03m 24s fast. What star did you observe?	Markab	Diphda	Sabik	Fomalhaut
5	1899	B	On 22 May , your 0437 DR position is LAT 25°18.5'N, LONG 51°18.0'W. You observe an unidentified star bearing 116°T at an observed altitude (Ho) of 11°27.8'. The chronometer reads 07h 40m 40s, and is 03m 24s fast. What star did you observe?	Markab	Diphda	Sabik	Hamal

5	1900	C	On 22 May , your 0437 DR position is LAT 25°18.5'N, LONG 51°18.0'W. You observed an unidentified star bearing 233°T at an observed altitude (Ho) of 29°42.3'. The chronometer reads 07h 40m 40s, and is 03m 24s fast. What star did you observe?	Markab	Diphda	Sabik	Hamal	
5	1901	A	On 22 April , your 1852 DR position is LAT 23°54.5'N, LONG 117°36.8'W. You observe an unidentified star bearing 248°T at an observed altitude (Ho) of 25°00.9'. The chronometer reads 02h 54m 53s, and is 02m 51s fast. What star did you observe?	Rigel	Betelgeuse	Gienah	Arcturus	
5	1902	D	On 22 April , your 1852 DR position is LAT 23°54.5'N, LONG 117°36.8'W. You observe an unidentified star bearing 077°T at an observed altitude (Ho) of 18°58.7'. The chronometer reads 02h 54m 53s, and is 02m 51s fast. What star did you observe?	Diphda	Betelgeuse	Gienah	Arcturus	
5	1903	B	On 22 April , your 1852 DR position is LAT 23°54.5'N, LONG 117°36.8'W. You observe an unidentified star bearing 259°T at an observed altitude (Ho) of 41°15.2'. The chronometer reads 02h 54m 53s, and is 02m 51s fast. What star did you observe?	Diphda	Betelgeuse	Gienah	Arcturus	
5	1904	A	On 22 March , your 0519 DR position is LAT 27°20.6'N, LONG 69°25.6'W. You observe an unidentified star bearing 115°T at an observed altitude (Ho) of 54°52.8'. The chronometer reads 10h 16m 47s, and is 02m 15s slow. What star did you observe?	Altair	Enif	Menkar	Rigel	
5	1905	C	On 22 March , your 0519 DR position is LAT 27°20.6'N, LONG 69°25.6'W. You observe an unidentified star bearing 200°T at an observed altitude (Ho) of 33°05.5'. The chronometer reads 10h 16m 47s, and is 02m 15s slow. What star did you observe?	Acamar	Enif	Antares	Rigel	

5	1906	D	On 22 March , your 0519 DR position is LAT 27°20.6'N, LONG 69°25.6'W. You observe an unidentified star bearing 051°T at an observed altitude (Ho) of 50°03.7'. The chronometer reads 10h 16m 47s, and is 02m 15s slow. What star did you observe?	Acamar	Enif	Menkar	Deneb	
5	1907	A	On 22 March , your 1834 DR position is LAT 26°13.5'S, LONG 108°36.5'W. You observe an unidentified star bearing 062°T at an observed altitude (Ho) of 23°22.0'. The chronometer reads 01h 32m 37s, and is 01m 50s slow. Which star did you observe?	Regulus	Menkar	Rigel	Alphard	
5	1908	C	On 22 March , your 1834 DR position is LAT 26°13.5'S, LONG 108°36.5'W. You observe an unidentified star bearing 315°T at an observed altitude (Ho) of 66°01.2'. The chronometer reads 01h 32m 37s, and is 01m 50s slow. What star did you observe?	Regulus	Menkar	Rigel	Alphard	
5	1909	B	On 22 March , your 1834 DR position is LAT 26°13.5'S, LONG 108°36.5'W. You observe an unidentified star bearing 294°T at an observed altitude (Ho) of 33°02.7'. The chronometer reads 01h 32m 37s, and is 01m 50s slow. What star did you observe?	Regulus	Menkar	Rigel	Alphard	
5	1910	D	On 22 February , your 1857 DR position is LAT 23°46.0'S, LONG 93°16.5'E. You observe an unidentified star bearing 126°T at an observed altitude (Ho) of 40°21.5'. The chronometer reads 01h 00m 35s and is 03m 25s fast. What star did you observe?	Adhara	Miaplacidus	Avior	Suhail	
5	1911	C	On 22 February , your 1857 DR position is LAT 23°46.0'S, LONG 93°16.5'E. You observe an unidentified star bearing 150°T at an observed altitude (Ho) of 42°15.0'. The chronometer reads 01h 00m 35s, and is 03m 25s fast. What star did you observe?	Adhara	Miaplacidus	Avior	Suhail	

5	1912	A	On 22 February , your 1857 DR position is LAT 23°46.0'S, LONG 93°16.5'E. You observe an unidentified star bearing 108°T at an observed altitude (Ho) of 67°53.9'. The chronometer reads 01h 00m 35s, and is 03m 25s fast. What star did you observe?	Adhara	Miaplacidus	Avior	Suhail
5	1913	A	On 14 January , your 0550 DR position is LAT 25°26.0'N, LONG 38°16.0'W. You observe an unidentified star bearing 212°T at an observed altitude (Ho) of 41°42.3'. The chronometer reads 08h 48m 51s, and is 01m 22s slow. What star did you observe?	Gienah	Kochab	Gacrux	Eltanin
5	1914	C	On 14 January , your 0550 DR position is LAT 25°26.0'N, LONG 38°16.0'W. You observe an unidentified star bearing 192°T at an observed altitude (Ho) of 06°15.2'. The chronometer reads 08h 48m 51s, and is 01m 22s slow. What star did you observe?	Gienah	Kochab	Gacrux	Eltanin
5	1915	D	On 14 January , your 0550 DR position is LAT 25°26.0'N, LONG 38°16.0'W. You observe an unidentified star bearing 043°T at an observed altitude (Ho) of 37°12.1'. The chronometer reads 08h 48m 51s, and is 01m 22s slow. What star did you observe?	Gienah	Kochab	Gacrux	Eltanin
5	1916	B	On 14 January , your 1922 DR position is LAT 27°18.5'S, LONG 67°18.0'E. You observe an unidentified star bearing 250°T at an observed altitude (Ho) of 31°01.2'. The chronometer reads 03h 25m 43s, and is 03m 15s fast. Which star did you observe?	Elnath	Fomalhaut	Pollux	Markab
5	1917	C	On 14 January , your 1922 DR position is LAT 27°18.5'S, LONG 67°18.0'E. You observe an unidentified star bearing 054°T at an observed altitude (Ho) of 07°52.1'. The chronometer reads 03h 25m 43s, and is 03m 15s fast. What star did you observe?	Elnath	Fomalhaut	Pollux	Markab

5	1918	D	On 14 January , your 1922 DR position is LAT 27°18.5'S, LONG 67°18.0'E. You observe an unidentified star bearing 295°T at an observed altitude (Ho) of 13°50.7'. The chronometer reads 03h 25m 43s, and is 03m 15s fast. What star did you observe?	Elnath	Fomalhaut	Pollux	Markab
5	1919	A	On 17 March , your 0520 DR position is LAT 27°23.0'N, LONG 39°42.0'W. You observe an unidentified star bearing 110°T at an observed altitude (Ho) of 50°47.2'. The chronometer reads 08h 22m 15s, and is 01m 45s fast. What star did you observe?	Altair	Alkaid	Arcturus	Deneb
5	1920	B	On 17 March , your 0520 Dr position is LAT 27°23.0'N, LONG 39°42.0'W. You observe an unidentified star bearing 313°T at an observed altitude (Ho) of 43°03.8'. The chronometer reads 08h 22m 15s and is 01m 45s fast. What star did you observe?	Altair	Alkaid	Arcturus	Deneb
5	1921	A	On 17 March , your 1845 DR position is LAT 25°10.0'N, LONG 66°48.0'W. You observe an unidentified star bearing 340°T at an observed altitude (Ho) of 66°25.1'. The chronometer reads 10h 47m 49s, and is 1m 54s fast. What star did you observe?	Capella	Mirfak	Pollux	Rigel
5	1922	B	On 17 March , your 1845 DR position is LAT 25°10.0'N, LONG 66°48.0'W. You observe an unidentified star bearing 320°T at an observed altitude (Ho) of 50°02.9'. The chronometer reads 10h 47m 49s, and is 1m 54s fast. What star did you observe?	Capella	Mirfak	Pollux	Rigel
5	1923	C	On 17 March , your 1845 DR position is LAT 25°10.0'N, LONG 66°48.0'W. You observe an unidentified star bearing 077°T at an observed altitude (Ho) of 67°04.4'. The chronometer reads 10h 47m 49s, and is 1m 54s fast. What star did you observe?	Capella	Mirfak	Pollux	Rigel

5	1924	D	On 23 September , your 1836 DR position is LAT 25°18'S, LONG 162°23'E. You observe an unidentified star bearing 000°T at an observed altitude (Ho) of 26°18'. The chronometer reads 07h 34m 12s, and is 01m 54s slow. What star did you observe?	Antares	Canopus	Achernar	Vega	
5	1925	C	On 23 September , your 1836 DR position is LAT 25°18'S, LONG 162°36'E. You observe an unidentified star bearing 148°T at an observed altitude (Ho) of 13°32'. The chronometer reads 07h 34m 12s, and is 01m 54s slow. Which star did you observe?	Antares	Canopus	Achernar	Sirius	
5	1926	B	On 23 September , your 1836 DR position is LAT 25°18'S, LONG 162°36'E. You observe an unidentified star bearing 022°T at an observed altitude (Ho) of 13°16'. The chronometer reads 07h 34m 12s, and is 01m 54s slow. What star did you observe?	Antares	Deneb	Achernar	Sirius	
5	1927	B	At 1554, on 25 May, you pass Huntington Point Light (mile 555.2 AHP). What was your average speed since departing Amoco Pipeline Co. DockS (253.6 AHP)?	6.9 mph	6.2 mph	4.8 mph	4.3 mph	
5	1928	C	On 17 March , your 0520 DR position is LAT 27°23.0'N, LONG 39°42.0'W. At this time you observe an unidentified star bearing 270°T with an observed altitude of 46°30.2'. The chronometer reads 08h 22m 15s, and is 01m 45s fast. What star did you observe?	Altair	Alkaid	Arcturus	Deneb	
5	1929	C	You are taking a time tick using the 1930 signal from Rio de Janeiro, Brazil. You hear the preparatory signal "CQ DE PPE" repeated several times followed by a short dash (0.4 sec), 60 dots (0.1 sec each) and another short dash. At the beginning of the last dash, the comparing watch reads 07h 30m 13s. When compared to the chronometer, the comparing watch reads 07h 31m 56s, and the chronometer reads 07h 30m 21s. What is the chronometer error?	0m 13s fast	1m 43s fast	1m 22s slow	1m 48s slow	
5	1949	C	The circle with black and white quadrants located at mile 435.6 AHP is a _____.	Daymark	Electrical Tower	River Gage	Information Board	

5	1950	C	The Greenville Gage reads 10.6 feet. The high point of your towboat is 54 feet above water. What is the vertical clearance as you pass under the Greenville Highway Bridge?	44.4 feet	54.2 feet	65.4 feet	75.4 feet
5	1951	A	As you approach Ashland Light (mile 378.1 AHP) which daymark would you see?	Red triangle	Red diamond	Green square	Green diamond
5	1952	B	As you approach Dean Island Light (mile 754.8 AHP), which type of daymark will be observed at the light?	Green triangle	Green diamond	Green square	Red-and-green banded square
5	1953	A	You are downbound when you observe on your Mississippi River map a cirsel with black and white quadrants on the left bank. This indicates a _____.	river gage	daymark	control tower	information board
5	1954	A	You have received orders to proceed to the Amoco Pipeline Co. (mile 253.6 AHP) above Baton Rouge. If your vessel is making turns for 9 mph with an estimated average current of 1.5 mph, what is your ETA at the Amoco docks?	1444, 27 Aug	2214, 27 Aug	0844, 28 Aug	1454, 28 Aug
5	1955	A	At 1814, on 11 September, you pass under the Greenville Highway Bridge (mile 531.3 AHP). What speed must you average to arrive at Jimmy Hawken Light (mile 663.5 AHP) at 0930 the following day?	8.7 mph	7.7 mph	6.3 mph	5.6 mph
5	1956	B	At 1923, you increase speed to make good 9.2 mph. What is the first gage you will pass after your speed change?	Cottonwood Point	Caruthersville	Fulton	New Madrid
5	1957	C	At 1923, on September 21, you pass Bixby Towhead Light (mile 873.7 AHP). What was your average speed since leaving Cairo?	9.2 mph	8.8 mph	8.5 mph	7.2 mph
5	1958	A	Which daymark would you see as you approach Red Store Light (mile 269.5 AHP)?	Green square	Green triangle	Green diamond	Red square
5	1959	D	The charts show two dashed lines crossing the river just south of St. Catherine Bar Light. What does this indicate?	Overhead power lines	Louisiana-Mississippi ferry crossings	Two railroad trestles	Two submerged oil pipelines
5	1960	C	The low water reference plane for Greenville Highway Bridge is 11.3 feet. If the Gage at the Greenville Highway Bridge reads 22.0 feet, what is the water level in relation to the low water reference plane (LWRP)?	22.1 feet below the LWRP	10.7 feet below the LWRP	10.7 feet above the LWRP	0.5 feet below the LWRP

5	1961	A	The Delta-Friar Point revetment on the LMR extends from mile _____.	657.3 - 652.2 LDB	652.8 - 649.6 RDB	648.5 - 645.5 LDB	645.6 - 641.4 RDB	
5	1963	C	Which of the following statements are TRUE?	Oil well structures are listed in the Light List.	All aids to navigation with lights have lateral significance.	On the Western Rivers, crossing marks may exhibit white lights.	All of the above.	
5	1964	B	The Platte River empties into which river?	Mississippi	Missouri	Ohio	Tennessee	
5	1981	B	Where can scheduled broadcast times of river stages be found?	Sailing Directions	Light List	List of Lights	Coast Pilot	
5	1986	D	You are in charge of a vessel that damages an aid to navigation established and maintained by the United States. Which statement is TRUE?	You must take the aid in tow and deliver it to the nearest Coast Guard, Marine Safety Office.	You must report the allision to the nearest Army Corps.. of Engineers Office.	You may wait until you reach your destination before reporting the allision to the U.S. Coast Guard.	You must report the accident to the nearest Officer in Charge, Marine Inspection.	
5	2001	A	On 3 February , your 0451 zone time DR position is LAT 24°15.0'S, LONG 124°24.0'W. Considering their magnitude, azimuth and altitude, which group includes the three bodies best suited for a fix at star time?	Alphard, Denebola, Acrux	Spica, Venus, Procyon	Jupiter, Dubhe, Antares	Mars, Arcturus, Spica	
5	2002	B	On 16 July , your 1810 zone time DR position is LAT 24°16.5'S, LONG 162°52.0'E. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Arcturus, Spica, Antares	Jupiter, Alphard, Alphecca	Pollux, Mars, Deneb	Vega, Hadar, Venus	
5	2003	A	On 20 June , your 1742 zone time DR position is LAT 24°55.0'S, LONG 8°19.6'E. Considering their magnitude, azimuth, and altitude, which three stars are best suited for a fix at star time?	Regulus, Canopus, Antares	Spica, Arcturus, Alioth	Arcturus, Achernar, Pollux	Avior, Sabik, Fomalhaut	
5	2004	A	On 28 February , your 1850 zone time DR position is LAT 27°49.0'N, LONG 159°24.0'W. Considering their magnitude, azimuth, and altitude, which group includes the three stars best suited for a fix at star time?	Rigel, Schedar, Regulus	Sirius, Mirfak, Elnath	Hamal, Alkaid, Canopus	Bellatrix, Vega, Regulus	
5	2005	D	On 17 July , your 1951 zone time DR position is LAT 24°26.0'N, LONG 51°16.0'W. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Hadar, Deneb, Alphard	Regulus, Venus, Antares	Mars, Vega, Dubhe	Kochab, Jupiter, Rasalhague	

5	2006	A	On 8 November , your 1731 zone time DR position is LAT 27°16.0'N, LONG 137°25.0'W. Considering their magnitude, azimuth, and altitude, which group includes the three stars best suited for a fix at star time?	Alphecca, Fomalhaut, Schedar	Antares, Rasalhague, Altair	Sirius, Hamal, Dubhe	Peacock, Ankaa, Al Na'ir
5	2007	C	On 4 September , your 1813 zone time DR position is LAT 24°18.0'S, LONG 95°16.0'E. Considering their magnitude, azimuth, and altitude, which group includes the three stars best suited for a fix at star time?	Enif, Miaplacidus, Alkaid	Betelgeuse, Acrux, Hamal	Rasalhague, Fomalhaut, Spica	Deneb, Altair, Vega
5	2008	C	On 24 July , your 1912 zone time DR position is LAT 24°28.0'N, LONG 73°46.5'W. Considering their magnitude, azimuth, and altitude, which group includes the three stars best suited for a fix at star time?	Fomalhaut, Rigel, Pollux	Arcturus, Acrux, Hadar	Spica, Altair, Alioth	Vega, Deneb, Regulus
5	2009	B	On 16 July , your 1920 ZT DR position is LAT 25°36.0'N, LONG 172°18.9'W. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Rasalhague, Spica, Arcturus	Venus, Antares, Vega	Vega, Mars, Antares	Saturn, Acrux, Spica
5	2011	A	On 3 February , your 0547 zone time DR position is LAT 24°18.5'N, LONG 167°25.0'E. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Regulus, Deneb, Antares	Altair, Saturn, Regulus	Arcturus, Kochab, Venus	Jupiter, Denebola, Regulus
5	2012	D	On 24 March , your vessel is enroute from Cadiz to Norfolk. Evening twilight will occur at 1830 zone time, and your vessel's DR position will be LAT 35°06'N, LONG 60°48' W. Considering their azimuth, altitude, and magnitude, which group of stars is best suited for plotting a star fix at star time?	Adhara, Rigel, Suhail	Regulus, Denebola, Alkaid	Adhara, Procyon, Alphard	Sirius, Dubhe, Mirfak
5	2013	C	On 28 October , morning twilight will occur around 0524 ZT in LAT 25°25.0'N, LONG 32°33.3'W. Considering their magnitude and location, which group will be the three stars best suited to observe for a star fix at star time?	Sirius, Hamal, Denebola	Sirius, Denebola, Dubhe	Sirius, Capella, Denebola	Sirius, Mirfak, Hamal

5	2014	A	On 16 October , evening twilight will occur at 1746 ZT, and your DR position will be LAT 28°43.2'N, LONG 60°29.8' W. Considering their magnitude and location, which of the following are the three best stars to select for a fix at star time?	Antares, Arcturus, Polaris	Deneb, Polaris, Vega	Antares, Deneb, Vega	Vega, Polaris, Enif
5	2016	C	On 23 March , your 1600 ZT DR position is LAT 27°16.3'N, LONG 156°48.2'W. You are on course 063°T at a speed of 18.0 knots. Considering their magnitude, azimuth, and altitude, which group includes the three stars best suited for a fix at star time?	Arcturus, Regulus, Sirius	Procyon, Sirius, Capella	Hamal, Rigel, Alphard	Betelgeuse, Dubhe, Regulus
5	2017	A	On 2 February , your 0400 zone time DR position is LAT 24°14.0'N, LONG 163°28.0'W. You are on course 322°T at a speed of 22 knots. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Saturn, Antares, Rasalhague	Jupiter, Saturn, Polaris	Saturn, Polaris, Zubenelgenubi	Jupiter, Spica, Denebola
5	2018	D	On 11 November , your 0200 zone time DR position is LAT 26°32'S, LONG 154°16'E. You are on course 058°T at a speed of 21 knots. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Polaris, Regulus, Rigel	Jupiter, Spica, Canopus	Saturn, Peacock, Rigel	Mars, Betelgeuse, Miaplacidus
5	2019	D	On 15 October , your 0300 zone time DR position is LAT 27°14'S, LONG 99°46'E. You are on course 128°T at a speed of 19 knots. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Jupiter, Alphard, Betelgeuse	Mars, Regulus, Canopus	Achernar, Suhail, Alphard	Achernar, Procyon, Aldebaran
5	2020	B	On 23 July , your 1700 zone time DR position is LAT 27°29'N, LONG 129°26'W. You are on course 079°T at a speed of 20 knots. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Arcturus, Jupiter, Denebola	Spica, Sabik, Vega	Antares, Polaris, Altair	Jupiter, Saturn, Polaris

5	2021	A	On 29 April , your 0300 ZT DR position is LAT 28°39'N, LONG 168°03'E. You are on course 108°T at a speed of 22 knots. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Moon, Alpheratz, Polaris	Deneb, Dubhe, Zubenelgenubi	Venus, Polaris, Arcturus	Moon, Altair, Sabik
5	2022	B	On 24 August , your vessel is enroute from Perth, Australia, to Bombay, India. Evening twilight will occur at 1807 zone time, and your vessel's DR position for this time will be LAT 27°17.0'S, LONG 83°17.0'E. Considering their magnitude and location, what are the three stars best suited to observe for a fix at star time?	Arcturus, Antares, Atria	Spica, Altair, Acrux	Pollux, Canopus, Hamal	Rasalhague, Spica, Kochab
5	2023	B	On 1 October , you determine the zone time of evening twilight will be 1835. Your DR position at this time is LAT 27°18.0'N, LONG 48°52.0'W. Considering their magnitude and location, which group of three stars are best suited to be used in obtaining a fix at star time?	Altair, Rasalhague, Vega	Alphecca, Kochab, Deneb	Diphda, Hamal, Mirfak	Antares, Rigil Kentaurus, Peacock
5	2024	B	On 3 December , evening twilight for your vessel will occur at 1901 zone time. Your vessel's DR position for this time will be LAT 24°18.5'S, LONG 110°30.6'W. Considering their magnitude and location, what are the three stars best suited to observe for a fix at star time?	Canopus, Hamal, Deneb	Alpheratz, Achernar, Nunki	Antares, Fomalhaut, Mirfak	Rigel, Canopus, Regulus
5	2025	C	On 10 October , your 1500 zone time DR position is LAT 27°35.6'S, LONG 44°49.0'W. You are on course 342°T at a speed of 24 knots. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?	Venus, Moon, Fomalhaut	Venus, Arcturus, Hamal	Moon, Al Na'ir, Rigil Kentaurus	Deneb, Spica, Markab
5	2026	D	On 10 June , your 1712 zone time DR position is LAT 25°10.0'S, LONG 06°58.0'E. You are on course 213°T at a speed of 9.0 knots. Considering their magnitude, azimuth, and altitude, which group includes the three stars best suited for a fix at star time?	Procyon, Antares, Sirius	Sirius, Procyon, Regulus	Acrux, Canopus, Regulus	Acrux, Procyon, Arcturus

5	2027	B	At 0645, on the 17th of April, you pass Hole in the Wall Lt. (mile 373.4 AHP). What has been your average speed since departing the Exxon Refinery?	5.8 mph	6.3 mph	6.7 mph	7.1 mph
5	2028	C	You are turning for 10 mph and passing Hog Point, LA. (mile 297.5 AHP). Angola reports that the current at Red River Landing is 4.5 mph. Which statement is TRUE?	The main channel lies on the south side of the island you see ahead.	You are making 14.5 mph over the ground.	An underwater stone dike has been constructed 0.5 miles upstream of Miles Bar Towhead.	You would expect to find the more favorable current near the broken red line in the river.
5	2029	C	As you approach mile 659 AHP, you notice on the map a dashed line crossing the river at mile 659.9 AHP. This line indicates _____.	ferry crossing	submarine crossing	power lines	gas pipelines
5	2030	A	Which of the following statements regarding buoys on the Mississippi River is TRUE?	Buoys should be given as wide a berth as possible in passing.	Buoy positions on the chart are exact.	The buoys are maintained on station year round.	The buoys do not shift positions due to permanent moorings.
5	2031	D	After passing Wilkinson Lt. (mile 310.0 AHP) you see a flashing amber light on the right descending bank ahead. The flashing light indicates that you should _____.	stay in the deepest water	slow down due to dredging operations	keep as close to the right descending bank as safety permits	keep as close to the left descending bank as safety permits
5	2049	B	What is the length of the trip?	405.8 miles	904.0 miles	1002.0 miles	1136.8 miles
5	2050	A	From Baton Rouge to Cairo, what is the maintained minimum channel depth during low water?	9 feet	12 feet	15 feet	30 feet
5	2051	B	On which map would you find Redman Point, Arkansas?	23	20	17	5
5	2052	A	The highest point on your towboat is 48 feet above the water, and the Memphis Gage reads +7.5 feet. What is the vertical clearance when you pass under the Hernando Desoto Bridge in Memphis?	53.2 feet	58.1 feet	68.2 feet	96.3 feet
5	2053	A	At 2342, on 25 August, you pass under the Helena Highway Bridge (mile 661.7 AHP). What has been the average speed of the current since departing Memphis Harbor, McKellar Lake, if you have been making turns for 9 mph?	1.8 mph	2.1 mph	4.4 mph	5.6 mph
5	2054	B	The Natchez Gage reads 16.3 feet. The high point on your towboat is 38 feet above water. What is the vertical clearance when you pass under the Natchez Highway Bridge?	79.0 feet	71.7 feet	65.2 feet	59.1 feet

5	2055	A	You estimate the current at 3.0 mph. What is the speed over the ground?	3.5 mph	4.5 mph	7.5 mph	9.5 mph	
5	2056	A	What are the color and shape of Togo Island daymark at mile 415.0 AHP?	Green - Square	Green - Diamond	Red - Triangle	Red - Square	
5	2060	A	The highest point on your towboat is 67 feet above the water, and the Helena Gage reads +22.3 feet. What is the vertical clearance when you pass under the A-span of the Helena Highway Bridge?	30.1 feet	49.8 feet	52.4 feet	74.7 feet	
5	2061	D	As you approach mile 225 AHP, you notice on the map a black broken line crossing the river at mile 224.2 AHP. This line indicates _____.	ferry crossing	submarine crossing	gas pipelines	power lines	
5	2062	D	You are downbound, passing by Spanish Moss Lt. (mile 534.2 AHP), when you observe on your Mississippi River map several black broken lines extending into the river from the bank. These indicate _____.	fleeting areas	revetments	dikes	weirs	
5	2076	A	What is the mile point of the Fulton Gage?	778 AHP	687 AHP	632 AHP	598 AHP	
5	2082	C	From your 0100 position, you change course to 258° per standard magnetic compass. Your engine speed is 10.0 knots. A short time later, your fathometer reads 51 feet (15.5 meters) under the keel. What is the water depth?	42.5 feet (12.9 meters)	51.0 feet (15.5 meters)	59.5 feet (18.0 meters)	60.4 feet (18.4 meters)	
5	2085	A	At your current speed of 20 knots you only have enough fuel remaining to travel 360 miles. You must travel 440 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	18.1	17.5	16.9	16.3	
5	2086	B	Ar your current speed of 22 knots you only have enough fuel remaining to travel 440 miles. You must travel 618 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	17.8	18.6	19.4	20.2	
5	2087	D	At your current speed of 21 knots you only have enough fuel remaining to travel 404 miles. You must travel 731 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	18.9	17.8	16.7	15.6	

5	2088	C	At your current speed of 19 knots you only have enough fuel remaining to travel 265 miles. You must travel 731 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	13.8	12.6	11.4	10.2	
5	2089	B	At your current speed of 18 knots you only have enough fuel remaining to travel 316 miles. You must travel 731 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	10.4	11.8	13.2	14.6	
5	2090	A	At your current speed of 17 knots you only have enough fuel remaining to travel 316 miles. You must travel 622 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	12.1	13.3	14.5	15.7	
5	2091	D	At your current speed of 22 knots you only have enough fuel remaining to travel 422 miles. You must travel 844 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	19.8	18.4	17.0	15.6	
5	2092	C	At your current speed of 23 knots you only have enough fuel remaining to travel 386 miles. You must travel 785 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	19.3	17.7	16.1	14.5	
5	2093	A	At your current speed of 21 knots you only have enough fuel remaining to travel 435 miles. You must travel 755 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	15.9	17.1	18.3	19.5	
5	2094	C	At your current speed of 20 knots you only have enough fuel remaining to travel 218 miles. You must travel 395 miles to reach your destination. What should you reduce your speed (knots) to in order to reach your destination?	17.4	16.2	14.9	13.7	
5	2100	D	From your 2118 position, you steer a course of 288°T at an engine speed of 7.0 knots. Visibility is suddenly reduced to 2 miles. At what time can you expect to see Old Point Comfort Light?	The light is visible at 2118.	2155	2220	2232	

5	2101	B	On 2 January , your 1759 zone time DR position is LONG 45°17.6'W. At that time you observe Polaris with a sextant altitude (hs) of 24°16.5'. The chronometer time of the sight is 08h 57m 10s, and the chronometer error is 02m 16s slow. The index error is 3.5' on the arc, and the height of eye is 42.5 feet. What is your latitude by Polaris?	22°50.2'N	23°18.8N	23°30.2N	24°07.3'N
5	2102	B	Sounding contours in unshaded water areas are at what interval?	10 foot up to 100 ft depths then at 30 foot intervals	30 foot intervals up to 180 feet	10 fathom intervals	The interval will vary to ensure any major underwater hazard is highlighted.
5	2103	B	On 24 August , in DR position LAT 26°49.4'N, LONG 146°19.4'E, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 084°psc. The chronometer reads 07h 55m 06s and is 01m 11s fast. Variation in the area is 15°W. What is the deviation of the magnetic compass?	8.0°E	8.3°E	8.5°E	8.7°E
5	2104	D	What type of bottom is found at Long Sand Shoal?	Rocky	Muddy	Sandy	Hard
5	2105	A	You are southeast of Saybrook Breakwater Light passing Saybrook Bar Lighted Bell Buoy "8". This buoy marks _____.	shoal water	a tide rips area	the junction with the Connecticut River	a sunken wreck
5	2106	D	At 0005, on 26 January, your position is LAT 41°11.8'N, LONG 72°20.5'W. From this position, you plot a course to steer to a point one half mile north of Mattituck Breakwater Light "MI" with an engine speed of 9.0 knots. If there are no set and drift, what course should you steer?	207°psc	213°psc	220°psc	235°psc
5	2107	D	At 0045, you obtain the following bearings:  Rocky Point lookout tower 072°T Horton Point lighthouse 213°T  What were the set and drift between 0005 and 0045?	272°true, 0.9 knot	272°true, 1.4 knots	092°true, 0.9 knot	092°True, 1.4 knots

5	2108	B	You alter course from your 0045 position to head for a point 0.5 mile north of Mattituck Breakwater Light "MI". If the visibility is 10 miles and you make good 9 knots, at approximately what time will you lose sight of Saybrook Breakwater Light?	You have already lost sight at 0045	0055	0120	The light is visible all the way to Mattituck Inlet
5	2109	A	At 0100, you obtain the following bearings:  Rocky Point Lookout Tower 062°T Horton Point Lighthouse 189°T  What was the speed made good between 0045 and 0100?	7.4 knots	8.0 knots	8.7 knots	9.2 knots
5	2110	D	From your 0100 position, you change course to 258° per standard magnetic compass. Your engine speed is 10.0 knots. A short time later, your fathometer reads 51 feet (15.5 meters) under the keel. What is the water depth?	38.5 feet (11.7 meters)	43.5 feet (13.2 meters)	51.0 feet (15.5 meters)	59.5 feet (18.0 meters)
5	2111	B	According to the DR track line from your 0100 position, how far off Roanoke Point Shoal Buoy "5" should you be when the buoy is abeam?	0.2 mile	0.6 mile	1.3 mile	1.8 miles
5	2112	A	At 0130, you obtain the following bearings:  Horton Point Lighthouse 078°T Mattituck Breakwater Light tower 196°T  What were the course and speed made good between 0100 and 0130?	246°T at 9.8 knots	253°T at 9.4 knots	259°T at 9.8 knots	267°T at 9.4 knots
5	2113	D	From your 0130 position, you change course to adjust for set and drift, and you later obtain the following loran lines of position:  9960-W-14975 9960-X-26412 9960-Y-43919  What is the latitude and longitude of the loran fix?	LAT 41°00.8'N, LONG 72°40.8'W	LAT 41°01.2'N, LONG 72°40.4'W	LAT 41°01.6'N, LONG 72°40.0'W	LAT 41°02.0'N, LONG 72°39.5'W

5	2114	C	At 0209, your position is LAT 41°01.8'N, LONG 72°40.8'W. What course should you steer per standard magnetic compass to make good 278° magnetic? (assume no set and drift)	262.0°psc	265.0°psc	275.5°psc	280.5°psc	
5	2115	C	The south coast of Long Island Sound between Mattituck Inlet and Port Jefferson is _____.	composed of high rocky bluffs	a high, flat plateau with sheer cliffs	fringed by rocky shoals	low and marshy with isolated beaches	
5	2116	A	At 0300, your position is LAT 41°01.7'N, LONG 72°55.1'W. From this position you steer a course of 289° per standard magnetic compass at an engine speed of 10.0 knots. At what time can you first expect to see Stratford Shoal Middle Ground Light if the luminous range is 8.0 miles?	0303	0309	0312	0318	
5	2117	A	You must arrive at your final destination by 0800. The distance from your 0300 position to the final destination is 40.5 miles. What minimum speed must be made good to arrive on time?	8.1 knots	8.5 knots	9.3 knots	9.6 knots	
5	2118	C	You are northwest of Port Jefferson Harbor steering 242° per standard magnetic compass. As you continue westward, you see that the Port Jefferson Range Front Light and Rear Light come into line. If the deviation table is correct, the bearing of the range should be _____.	140°psc	146°psc	157°psc	160°psc	
5	2119	A	At 1622 ZT, on 15 June , in DR position LAT 10° 15.2' N, LONG 135° 10' W, you observe an amplitude of the Moon. The center of the Moon is on the visible horizon, bearing 101.2°psc. The variation is 5° E. What is the deviation?	1.5°E	1.5°W	0.5°E	0.5°W	
5	2120	B	At 1502 ZT, on 4 August , in DR position LAT 11° 21.6' S, LONG 088° 14.3' E, you observe an amplitude of the Moon. The upper limb of the Moon is on the visible horizon and bears 289° psc. The variation is 15° W. What is the deviation?	1.1°E	1.1°W	1.9°E	1.9°W	

5	2121	C	At 1337 ZT, on July 17, , in DR position LAT 30° 56.8' S, LONG 039° 36.5' W, you observe an amplitude of the Moon. The upper limb of the moon is on the visible horizon, bearing 263.0°psc. The variation is 20°W. What is the deviation?	2.6°E	2.6°W	3.6°E	3.6°W
5	2122	D	At 1538 ZT, on 15 October , in DR LAT position LAT 18° 12.8' S, LONG 160° 48.4' E, you observe an amplitude of the Moon. The center of the Moon is on the visible horizon and bears 276.2°psc. Variation is 10° E. What is the deviation?	2.6°E	2.6°W	3.6°E	3.6°W
5	2123	D	At 0410, you take the following bearings: New Point Comfort Light "2" 244°pgc Wolf Trap Light 315°pgc What is your 0410 position?	LAT 37°21.2'N, LONG 76°08.3'W	LAT 37°21.1'N, LONG 76°08.8'W	LAT 37°21.1'N, LONG 76°07.9'W	LAT 37°21.0'N, LONG 76°08.1'W
5	2124	A	If the visibility is 10 miles and you are in the red sector, at what distance off should you sight Cape Henry Light?	15 miles	12 miles	10 miles	08 miles
5	2125	C	From your 0410 fix, what is the course per standard magnetic compass to enter York Spit Channel with buoy "29" close abeam to starboard?	172°psc	176°psc	198°psc	202°psc
5	2126	C	At 2350 on 23 June, you are at mile 610.5 AHP when you see about a mile ahead lights on the water near the left bank. What might you see when you come abreast of these lights?	Privately maintained buoys at a yacht club	Government buoys marking the Hurricane Point dikes	Barges moored at the Dennis Landing Terminal	A pipeline discharging dredge spoil
5	2151	A	On 16 June , 0612 zone time, morning stars were observed. The vessel's position was LAT 27°23.0'S, LONG 56°22.0'W. The vessel is steaming at 16.0 knots on a course of 212°T. A sextant observation of the Sun's lower limb is made at 0850 zone time. The chronometer reads 00h 53m 19s, and the sextant altitude is 22°58.6'. The index error is 2.0' off the arc, and the chronometer error is 02m 43s fast. Your height of eye is 61.0 feet. What is the azimuth (Zn) of this sight using the assumed position?	044.3°	052.6°	136.1°	148.4°

5	2152	A	<p>On 25 June , at 0612 zone time, morning stars were observed, and the vessel's position was determined to be LAT 28°13.0'S, LONG 49°34.0'E. Your vessel is steaming at 17.0 knots on a course of 066°T. A sextant observation of the Sun's lower limb is made at 1022 zone time. The chronometer reads 07h 19m 17s, and the sextant altitude is 35°26.3'. The index error is 1.5' on the arc, and the chronometer error is 02m 51s slow. Your height of eye on the bridge is 58.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	021.5°T	157.5°T	201.5°T	338.5°T
5	2153	C	<p>At 0800 ZT, on 29 June , your DR position is LAT 26°00.0'N, LONG 75°29.5'W. Given a chronometer time of 01h 00m 00s, determine the computed altitude (Hc) of the Sun for the assumed position nearest to the above given latitude and longitude.</p>	Hc 34°38.6'	Hc 34°48.6'	Hc 34°58.6'	Hc 35°18.6'
5	2154	A	<p>On 30 June , at 0630 zone time, morning stars were observed, and the vessel's position was determined to be LAT 25°15.0'S, LONG 175°36.0'E. Your vessel is steaming at 16.0 knots on a course of 302°T. A sextant observation of the Sun's lower limb is made at 1015 zone time. The chronometer reads 10h 14m 38s, and the sextant altitude is 32°07.9'. The index error is 4.5' on the arc, and the chronometer error is 01m 25s slow. Your height of eye on the bridge is 58.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	035.3°T	144.7°T	186.5°T	248.5°T

5	2155	B	<p>On 17 May , at 0501 zone time, morning stars were observed, and the vessel's position was determined to be LAT 22°16.0'S, LONG 103°46.0'W. Your vessel is steaming at 24.0 knots on a course of 301°T. A sextant observation of the Sun's lower limb is made at 0845 zone time. The chronometer reads 03h 43m 32s, and the sextant altitude is 28°24.7'. The index error is 1.5' off the arc, and the chronometer error is 02m 02s slow. Your height of eye on the bridge is 85.5 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	051.0°T	052.5°T	054.2°T	055.7°T
5	2156	D	<p>At 1300 ZT, on 9 May , your DR position is LAT 24°00'N, LONG 83°26'W. Determine the computed altitude (Hc) of the Sun for the assumed position (AP) nearest to the above given latitude and longitude, given a chronometer time of 07h 00m 00s.</p>	Hc 68°22.8'	Hc 68°24.1'	Hc 68°25.2'	Hc 68°26.6'
5	2157	B	<p>On 25 May , your vessel's 1917 zone time position is LAT 24°16.0'N, LONG 017°26.0'W. At that time a sextant observation of the planet Saturn was made. The sextant altitude is 63°05.1', and the chronometer reads 08h 18m 24s. The index error is 4.5' off the arc, and the chronometer error is 01m 05s fast. Your height of eye is determined to be 62.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	143.8°	147.3°	148.7°	149.9°
5	2158	B	<p>On 26 May , your vessel's 1906 zone time position is LAT 27°16.0'N, LONG 24°37.0'W. At that time, a sextant observation of the planet Jupiter was made. The sextant altitude is 63°27.6', and the chronometer reads 09h 05m 16s. The index error is 5.2' on the arc, and the chronometer error is 01m 25s slow. Your height of eye is determined to be 52.6 feet. What is the (Zn) of this sight using the assumed position?</p>	011.3°T	168.7°T	191.3°T	348.7°T

5	2159	D	<p>On 25 May , your vessel's 1858 zone time position is LAT 21°05.0'N, LONG 143°27.0'E. At that time a sextant observation of the planet Venus was made. The sextant altitude is 12°53.4' and the chronometer reads 08h 59m 15s. The index error is 4.5' off the arc, and the chronometer error is 01m 25s fast. Your height of eye is determined to be 55.0 feet. What is the azimuth (Zn) of the sight using the assumed position?</p>	069.6°T	110.4°T	249.6°T	290.4°T
5	2160	C	<p>On 17 April , your vessel's 1856 zone time DR position is LAT 22°35.0'N, LONG 63°15.0'W. At that time, a sextant observation of the star Sirius is made. The sextant altitude is 42°45.0' and the chronometer reads 10h 59m 27s. The index error is 2.6' off the arc, and the chronometer error is 03m 01s fast. Your height of eye is determined to be 45 feet. What is the computed altitude (hc) and azimuth (Zn) for this sight using the assumed position?</p>	42°40.0', 214.9°T	42°40.0', 325.1°T	42°51.6', 214.9°T	42°51.6', 325.1°T
5	2161	D	<p>On 28 April , your vessel's 0515 zone time position is LAT 23°26'S, LONG 95°30'E. At this time, the observed altitude (Ho) of the star Rigil Kentaurus is 24°51.4'. Your chronometer reads 11h 16m 36s and is 01m 18s fast. What is the intercept (a) based on the assumed position method?</p>	30.9 miles	32.3 miles	33.1 miles	34.4 miles
5	2162	C	<p>On 5 April , at 0509 zone time, morning stars were observed and the vessel's position was LAT 28°32'N, LONG 177°13.0'W. Your vessel is steaming at 19.0 knots on a course of 258°T. A sextant observation of the Sun's lower limb is made at 1021 zone time. The chronometer reads 10h 20m 09s, and the sextant altitude (hs) is 58°06.6'. The index error is 1.0' off the arc, and the chronometer error is 00m 54s slow. Your height of eye on the bridge is 55.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	125.8°T	128.8°T	129.2°T	130.2°T

5	2163	C	<p>On 1 April , at 0515 zone time, morning stars were observed, and the vessel's position was determined to be LAT 27°05.0'N, LONG 16°30.0'W. Your vessel is steaming at 19.0 knots on a course of 022°T. A sextant observation of the Sun's lower limb is made at 0930 zone time. The chronometer reads 10h 28m 25s, and the sextant altitude is 46°20.3'. The index error is 4.5' off the arc, and the chronometer error is 02m 15s slow. Your height of eye on the bridge is 57.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	121.6°T	117.9°T	115.0°T	112.2°T
5	2164	C	<p>On 6 March , at 0550 zone time, morning stars were observed, and the vessel's position was determined to be LAT 23°56.0'N, LONG 27°19.0'W. Your vessel is steaming at 25.0 knots on a course of 149.0°T. A sextant observation of the Sun's lower limb is made at 0830 zone time. The chronometer reads 10h 32m 05s, and the sextant altitude is 31°31.5'. The index error is 2.5' on the arc, and the chronometer error is 01m 45s fast. Your height of eye on the bridge is 76.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	109.8°T	111.2°T	112.8°T	114.3°T
5	2165	A	<p>On 25 February , at 0622 ZT, you observe the upper limb of the Moon with a sextant altitude of 59°58.6'. Your DR position is LAT 30°28.3'S, LONG 102°39.3 E. The chronometer reading at the time of the sight is 11h 21m 18s and the chronometer is 48s slow. The height of eye is 59 feet and the index error is 2.5' on the arc. What are the azimuth (Zn) and intercept (a) of this sight using the assumed position?</p>	Zn 305.4°, a 4.2°T	Zn 234.6°, a 4.2° A	Zn 305.4°, a 1.5°T	Zn 305.4°, a 9.2°T

5	2166	C	<p>On 10 January , at 0550 ZT, morning stars were observed, and the vessel's position was determined to be LAT 25°16.0'N, LONG 123°18.0'W. Your vessel is steaming at 22.0 knots on a course of 295°T. A sextant observation of the Sun's lower limb is made at 0915 ZT. The chronometer reads 05h 14m 02s, and the sextant altitude is 24°00.7'. The index error is 2.6' off the arc, and the chronometer error is 01m 34s slow. Your height of eye on the bridge is 55.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	127.8°T	129.8°T	131.9°T	133.6°T
5	2167	A	<p>On 4 July , at 0630 ZT, morning stars were observed, and the vessel's position was determined to be LAT 21°15.0'S, LONG 21°20.0'W. Your vessel is steaming at 13.0 knots on a course of 146°T. A sextant observation of the Sun's lower limb is made at 0915 ZT. The chronometer reads 10h 14m 27s, and the sextant altitude is 25°29.8'. The index error is 3.1' off the arc, and the chronometer error is 0m 53s slow. Your height of eye on the bridge is 48.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	049.5°T	052.6°T	054.3°T	058.9°T
5	2168	D	<p>On 22 July , at 0448 ZT, morning stars were observed, and the vessel's position was determined to be LAT 21°43.0'N, LONG 158°39.0'E. Your vessel is steaming at 21.0 knots on a course of 028°T. A sextant observation of the Sun's lower limb is made at 0956 ZT. The chronometer reads 10h 54m 27s, and the sextant altitude is 54°28.2'. The index error is 1.5' off the arc, and the chronometer error is 01m 38s slow. Your height of eye on the bridge is 56 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	080.9°T	082.2°T	084.2°T	086.9°T

5	2169	C	At 0600 ZT, on 24 July , your DR position is LAT 22°37'N, LONG 32°45'W. You are steering 185°T at a speed of 20.0 knots. Determine the computed altitude (Hc) and azimuth (Zn) for an observation of the Sun's lower limb taken at 1030 ZT. At this time the chronometer reads 00h 30m 16s and is 0m 31s slow.	Hc 64°27.5' Zn 092.3°	Hc 64°30.8' Zn 090.1°	Hc 64°41.7' Zn 087.8°	Hc 64°44.2' Zn 094.7°
5	2170	C	On 22 July , at 0720 ZT, in DR position LAT 20°38.2'N, LONG 87°16.0'W, you observe the Moon's lower limb. The sextant altitude (hs) is 38°32.6, and the chronometer reads 01h 18m 14s. The chronometer is 01m 28s slow. The index error is 3.1' off the arc, and the height of eye is 68 feet. What is the azimuth (Zn) and intercept (a) of this sight from the assumed position?	Zn 291.4°, a 5.2' A	Zn 111.4°, a 8.7' A	Zn 248.6°, a 5.0' T	Zn 068.6°, a 6.5' T
5	2171	A	On 8 August , at 0545 ZT, morning stars were observed, and the vessel's position was determined to be LAT 26°16.0' S, LONG 94°16.0'E. Your vessel is steaming at 20.0 knots on a course of 346°T. A sextant observation of the Sun's lower limb is made at 0905 ZT. The chronometer reads 03h 02m 52s, and the sextant altitude (hs) is 38°07.5'. The index error is 5.2' off the arc, and the chronometer error is 2m 17s slow. Your height of eye on the bridge is 72 feet (22.0 meters). What is the observed altitude (Ho) and azimuth (Zn) of this sight using the assumed position?	38°19.4', 048.4°T	38°19.4', 131.6°T	38°54.9', 048.4°T	38°54.9', 131.6°T
5	2172	B	On 11 October , at 0516 ZT, morning stars were observed, and the vessel's position was determined to be LAT 23°21.0'N, LONG 139°27.0'W. Your vessel is steaming at 14.0 knots on a course of 293°T. A sextant observation of the Sun's lower limb is made at 0927 ZT. The chronometer reads 06h 30m 21s, and the sextant altitude (hs) is 39°48.7'. The index error is 2.0' on the arc, and the chronometer error is 02m 56s fast. Your height of eye on the bridge is 63.0 feet. What is the azimuth (Zn) of this sight using the assumed position?	116.2°T	123.4°T	126.2°T	128.4°T

5	2174	C	<p>On 18 October , at 0518 ZT, morning stars were observed and the vessel's position was determined to be LAT 25°31.0'N, LONG 146°29.2'E. Your vessel is steaming at 19.0 knots on a course of 308°T. A sextant observation of the Sun's lower limb is made at 0915 ZT. The chronometer reads 11h 17m 11s, and the sextant altitude (hs) is 34°51.4'. The index error is 2.0' off the arc, and the chronometer error is 01m 57s fast. Your height of eye on the bridge is 54.0 feet. What is the azimuth (Zn) of this sight using the assumed position?</p>	120.6°T	121.9°T	125.5°T	127.3°T
5	2175	A	<p>On 13 November , at 0438 ZT, morning stars were observed and the vessel's position was determined to be LAT 22°14.0'S, LONG 79°23.0'E. Your vessel is steaming at 13.0 knots on a course of 242°T. A sextant observation of the Sun's lower limb is made at 0822 ZT. The chronometer reads 03h 20m 16s, and the sextant altitude (hs) is 45°49.7'. The index error is 1.0' on the arc, and the chronometer error is 01m 47s slow. Your height of eye on the bridge is 61.0 feet (18.6 meters). What is the azimuth (Zn) of this sight using the assumed position?</p>	092.6°T	096.2°T	098.7°T	099.7°T
5	2176	C	<p>On 9 November , at 0426 ZT, your position was LAT 25°17.0'S, LONG 154°16.0'E. Your vessel is steaming at 14.0 knots on course 066°T. A sextant observation of the Sun's lower limb is made at 0837 ZT. The chronometer reads 10h 35m 21s, and the sextant altitude (hs) is 50°26.9'. The index error is 1.5' on the arc, and the chronometer error is 01m 48s slow. Your height of eye on the bridge is 56.0 feet. What is the observed altitude (Ho) and azimuth (Zn) of this sight using the assumed position?</p>	50°18.1', 086.3°T	50°18.1', 093.7°T	50°33.5', 085.9°T	50°33.5', 093.7°T

5	2177	D	<p>On 21 November , at 0430 ZT, morning stars were observed, and the vessel's position was LAT 22°14.0'S, LONG 79°23.0'E. Your vessel is steaming at 14.5 knots on a course of 246°T. A sextant observation of the Sun's lower limb is made at 0816 ZT. The chronometer reads 03h 14m 16s, and the sextant altitude (hs) is 44°29.2'. The index error is 1.0' on the arc, and the chronometer error is 01m 47s slow. Your height of eye is 61.0 feet (18.6 meters). What is the azimuth (Zn) and intercept (a) of this sight using the assumed position?</p>	Zn 084.2°, a 6.6' A	Zn 084.2°, a 6.6' T	Zn 095.6°, a 6.6' A	Zn 095.6°, a 6.6' T
5	2178	C	<p>On 26 July , your 1901 ZT position is LAT 28°28'N, LONG 157°16'E when you take an observation of Jupiter. The chronometer at the time of the sight reads 08h 54m 34s and is 06m 24s slow. The sextant altitude (hs) is 33°51.5'. The index error is 2.8' off the arc, and the height of eye is 48 feet. What are the azimuth (Zn) and intercept (a) for this sight using the assumed position?</p>	Zn 110.8°, a 32.0' T	Zn 249.2°, a 32.0' A	Zn 248.2°, a 34.2' T	Zn 290.8°, a 44.2' A
5	2179	A	<p>On 22 June , at 0906 EDT (ZD +4), your position by Loran fix is LAT 24°36'N, LONG 69°30'W. You are on course 165°pgc at a speed of 14.8 knots. A sextant observation of the Sun's lower limb is made, and the sextant altitude (hs) is 42°44.0' with an index error of 0.8' off the arc. At this time the chronometer reads 01h 10m 12s, and is 2m 42s slow. If your height of eye is 70 feet, what is the azimuth (Zn) of the sight using the assumed position?</p>	Zn 080.4°	Zn 081.6°	Zn 129.0°	Zn 130.5°

5	2180	B	<p>On 12 April , at 0515 ZT, morning stars were observed, and the vessel's position was determined to be LAT 21°05'S, LONG 16°30'W. Your vessel is steaming at 19 knots on a course of 278°T. A sextant observation of the Sun's lower limb is made at 0930 ZT. The chronometer reads 10h 28m 25s, and the sextant altitude (hs) is 40°15.9'. The index error is 2.5' off the arc, and the chronometer error is 2m 15s slow. Your height of eye on the bridge is 57 feet. What are the intercept (a) and azimuth (Zn) from the assumed position of this sight?</p>	Zn 057.7°, a 15.4' T	Zn 057.0°, a 17.7' A	Zn 122.3°, a 17.7' A	Zn 123.0°, a 22.7' A
5	2181	B	<p>On 4 June , at 0630 ZT, morning stars were observed, and the vessel's position was determined to be LAT 26°15'S, LONG 121°20'W. Your vessel is steaming at 13.0 knots on a course of 246°T. A sextant observation of the Sun's lower limb is made at 0915 ZT. The chronometer reads 05h 14m 27s, and the sextant altitude is 25°57.8'. The index error is 2.1' off the arc, and the chronometer error is 0m 53s slow. Your height of eye is 39.0 feet. What is the intercept (a) and azimuth (Zn) of this sight using the assumed position method?</p>	Zn 044.6°, a 1.7' A	Zn 044.6°, a 2.5' T	Zn 135.1°, a 1.7' A	Zn 135.1°, a 2.5' T
5	2182	B	<p>On 18 August , at 0600 ZT, morning stars were observed, and the vessel's position was determined to be LAT 19°48'N, LONG 108° 34'W. Your vessel is steaming on course 166°T at a speed of 16 knots. An observation of the Sun's lower limb is made at 1036 ZT. The chronometer reads 05h 34m 48s and is slow 01m 24s. What is the computed altitude (Hc) and azimuth (Zn) for this 1036 ZT observation using the assumed position method?</p>	Hc 65°18.5', Zn 102.1°	Hc 65°14.8', Zn 100.4°	Hc 65°11.3', Zn 099.4°	Hc 65°07.2', Zn 101.2°
5	2185	D	<p>At 1000 ZT, on 21 October , your DR position is LAT 29°00'N, LONG 134°40'E. Determine the computed altitude (Hc) of the Sun for the assumed position (AP) nearest to the above given latitude and longitude, given a chronometer time of 01h 00m 00s.</p>	Hc 42°30.6'	Hc 42°32.1'	Hc 42°34.2'	Hc 42°35.7'

5	2186	A	At 0922, on 24 May, you are abreast the St. Catherine Bar Lt. (mile 348.6 AHP). If you are turning for 8.0 mph, what is the current?	1.0 mph	1.4 mph	2.0 mph	7.0 mph	
5	2187	C	At which of the following times would you be able to listen to lower Mississippi River conditions on VHF Channel 22?	0900 hours	1100 hours	1300 hours	1600 hours	
5	2201	D	At 1000, on May 11th, you are passing George Prince Lt. (mile 364.1 AHP) in Natchez, Mississippi and must send an ETA to the Monsanto Terminal in St. Louis (mile 178.0 UMR). Your engines are still turning for 8.5 mph and you estimate the current at 2.5 mph. What will be your arrival time in St. Louis?	1919 on 15 May	2344 on 15 May	1113 on 16 May	1757 on 16 May	
5	2202	B	After entering Milliken Bend (mile 455 AHP) you wish to locate the river service in Madison Parish, Louisiana. The river service is indicated by the square containing which number?	5	4	3	2	
5	2203	C	You have orders to drop off the empties at the fleeting area at Cairo Point and add five loaded tank barges to your tow. If you are turning for 9 mph and estimate the current at 1.5 mph, what is your ETA at Cairo?	2210, 22 June	1741, 22 June	1423, 22 June	1031, 22 June	
5	2204	D	The Clinch River empties into which river?	Arkansas	Mississippi	Ohio	Tennessee	
5	2205	B	What are the dimensions of Old River Lock, on the Lower Mississippi River?	1202 feet x 84 feet	1190 feet x 75 feet	760 feet x 75 feet	425 feet x 75 feet	
5	2206	B	What is the distance in river miles, from the new mouth of the White River to the RR and Hwy bridge at Baton Rouge, LA?	338 miles	365 miles	400 miles	454 miles	
5	2207	A	As you pass under the Natchez-Vidalia Dual Bridge, the gage on the bridge reads 8.9 ft. If the highest point on your vessel is 54 ft. above the water, what is your vertical clearance?	63.1 feet	65.3 feet	67.2 feet	122.0 feet	
5	2208	B	What is the total length of the trip?	906.3 miles	922.3 miles	1155.8 miles	1187.3 miles	
5	2209	D	The Helena Gage reads 9.4 feet. The high point on your towboat is 42 feet above water. What is the vertical clearance when you pass under the Helena Highway Bridge?	53.0 feet	62.6 feet	64.2 feet	68.0 feet	

5	2210	C	The low water reference plane (LWRP) for Bayou Sara is 5.25 feet. If the Bayou Sara Gage reads -0.5 feet, what is the water level in relation to the low water reference plane?	4.75 feet above the plane	5.75 feet above the plane	5.75 feet below the plane	4.75 feet below the plane	
5	2211	D	Your engine speed is 9.8 mph and you estimate the current at 1.6 mph. What is your speed over the ground?	11.0 mph	9.8 mph	8.6 mph	8.2 mph	
5	2212	A	At 1650 you decrease speed to make good 7.1 mph. At 2020 you are _____.	abeam of Old River Control Structure Light	entering the Vicksburg District of the U.S. Army Corps. of Engineers	at Palmetto Point	at Latitude 31°10'N	
5	2213	A	Controlling depth of a channel _____.	is the least depth within the limits of the channel	is the greatest depth within the limits of the channel	permits the safe use of the channel to drafts of more than that depth	is the designed dredging depth of a channel constructed by the U.S. Army Corps. of Engineers	
5	2214	B	Which of the following statements regarding aids to navigation shown in the Corps. of Engineers map book is TRUE?	The U.S. Army Corps. of Engineers is responsible for placing and maintaining all aids to navigation.	Buoys should always be given as wide a berth in passing as possible.	Buoy positions as shown on the chart are exact.	Lights and daymarks are always shown in their exact location.	
5	2216	B	If your vessel is making turns for 7.5 mph with an estimated average current of 1.5 mph, what is your ETA at the dock in Angelina, LA?	0516, 28 Dec	1621, 28 Dec	0516, 29 Dec	1621, 29 Dec	
5	2217	D	The highest point on your towboat is 67 feet above the water, and the Helena Gage reads +22.3 feet. What is the vertical clearance when you pass under the A-span of the Helena Highway Bridge?	74.7 feet	52.4 feet	49.8 feet	30.1 feet	
5	2233	B	You have orders to drop off the empties at the fleeting area at Cairo Point and add five loaded tank barges to your tow. If you are turning for 9 mph and estimate the current at 1.5 mph, what is your ETA at Cairo?	1031, 22 June	1423, 22 June	1741, 22 June	2210, 22 June	
5	2238	D	At 1430 ZT, on 16 April, in DR position LAT 34° 03.8' N, LONG 061° 02.5'W, you observe an amplitude of the Moon. The center of the Moon is on the visible horizon and bears 095.2°psc. The variation is 12°W. What is the deviation?	1.7°W	1.7°E	1.9°W	1.9°E	

5	2239	B	At 1610 ZT, on 14 August , in DR position LAT 33° 24.6' S, LONG 028°15.4'W, you observe an amplitude of the Moon. The center of the Moon is on the visible horizon and bears 111.0° psc. The variation is 2° E. What is the deviation?	1.1°E	1.1°W	2.1°E	2.1°W
5	2240	A	At 1542 ZT, on 23 October , in DR position LAT 37° 28.5'N, LONG 156° 17.3'E, you observe an amplitude of the Moon. The center of the Moon is on the visible horizon and bears 282.5°psc. The variation is 0.0°. What is the deviation?	2.2°E	2.2°W	1.2°E	1.2°W
5	2241	C	At 1318 ZT, on 10 September , in DR position LAT 24° 05.8' N, LONG 058° 08.3' E, you observe an amplitude of the Moon. The upper limb of the Moon is on the visible horizon and bears 254° psc. Variation is 2° W. What is the deviation?	8.0°W	8.0°E	4.0°W	4.0°E
5	2242	C	At 1620 ZT, on 10 September , in DR position LAT 34° 03.8' N, LONG 050° 28.4' W, you observe an amplitude of the Moon. The Moon's upper limb is observed on the visible horizon and bears 110.2° psc. The variation is 2° E. What is the deviation?	2.0°E	2.0°W	1.2°E	1.2°W
5	2243	A	At 1444 ZT, on 28 July , in DR position LAT 40° 56.8' N, LONG 167° 12.4' E, you observe an amplitude of the Moon. The upper limb of the Moon is on the visible horizon and bears 299.3° psc. The variation is 1° E. What is the deviation?	3.1°W	3.1°E	2.1°W	2.1°E
5	2244	A	At 1435 ZT, on 27 April , in DR position LAT 51° 56.8' N, LONG 150° 37.7' E, the Moon's upper limb is observed on the visible horizon, bearing 242.2° psc. Variation is 2° W. What is the deviation?	2.2°W	2.2°E	6.2°E	6.2°W
5	2245	B	You are entering the channel at buoy 29 and turning for 9 knots. An easterly wind is causing 3° of leeway and the current is 320°T at 1.2 knots. What true course should you steer to remain in the middle leg of York Spit Channel?	162°T	165°T	168°T	171°T

5	2247	D	At 1845 zone time, on 17 March , while taking stars for an evening fix, you observe an unidentified star bearing 200°T at an observed altitude of 53°45.0'. Your DR position at the time of the sight is LAT 25°10.0'N, LONG 66°48.0'W. The chronometer time of the sight is 10h 47m 49s, and the chronometer error is 1m 54s fast. Your vessel is steaming on a course of 290°T at a speed of 18.0 knots. What star did you observe?	Altair	Mirfak	Pollux	Rigel	
5	2248	A	Which company does NOT have a marine facility in Rosedale Harbor (mile 585 AHP)?	T.L. James	Rosedale-Boliver County Port Commission	Cives Steel Company	Sanders Elevator Corp	
5	2272	D	As you approach Buckridge Light (mile 412.5 AHP), which type of daymark would you see on the light structure?	Red diamond	Red triangle	Green diamond	Green square	
5	2275	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 24°00.7' on 10 January . The index error is 2.6' off the arc. The height of eye is 55 feet. What is the observed altitude (Ho)?	24°07.4'	24°08.9'	24°10.2'	24°11.8'	
5	2276	D	You observe the lower limb of the Sun at a sextant altitude (hs) of 46°20.3' on 1 April . The index error is 4.5' off the arc. The height of eye is 57 feet (17.4 meters). What is the observed altitude (Ho)?	46°24.2'	46°27.9'	46°30.1'	46°32.6'	
5	2277	B	You observe the lower limb of the Sun at a sextant altitude (hs) of 41°29.8' on 11 January . The index error is 2.4' off the arc. The height of eye is 68 feet. What is the observed altitude (Ho)?	41°36.4'	41°39.4'	41°42.0'	41°44.5'	
5	2278	A	You observe the lower limb of the Sun at a sextant altitude (hs) of 31°31.5' on 6 March . The index error is 2.5' on the arc. The height of eye is 76 feet. What is the observed altitude (Ho)?	31°35.3'	31°36.7'	31°38.2'	31°39.5'	
5	2279	B	You observe the lower limb of the Sun at a sextant altitude (hs) of 58°06.6' on 5 April . The index error is 1.0' off the arc. The height of eye is 55 feet (16.8 meters). What is the observed altitude (Ho)?	58°14.2'	58°15.8'	58°16.9'	58°18.1'	

5	2280	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 28°24.7' on 17 May . The index error is 1.5' off the arc. The height of eye is 86 feet (26 meters). What is the observed altitude (Ho)?	28°29.7'	28°30.6'	28°31.5'	28°32.9'	
5	2281	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 62°22.2' on 6 June . The index error is 1.2' on the arc. The height of eye is 28 feet (8.5 meters). What is the observed altitude (Ho)?	62°24.8'	62°26.9'	62°31.4'	62°36.7'	
5	2282	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 42°44.0' on 22 June . The index error is 0.8' off the arc. The height of eye is 70 feet (21.3 meters). What is the observed altitude (Ho)?	42°19.8'	42°21.7'	42°51.7'	42°54.2'	
5	2283	A	You observe the lower limb of the Sun at a sextant altitude (hs) of 22°58.6' on 16 June . The index error is 2.0' off the arc. The height of eye is 61 feet. What is the observed altitude (Ho)?	23°06.7'	23°09.9'	23°15.4'	23°22.2'	
5	2284	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 35°26.3' on 25 June . The index error is 1.5' on the arc. The height of eye is 58 feet (17.6 meters). What is the observed altitude (Ho)?	35°28.2'	35°29.9'	35°32.1'	35°36.7'	
5	2285	B	You observe the lower limb of the Sun at a sextant altitude (hs) of 45°49.7' on 13 November . The index error is 1.0' on the arc. The height of eye is 61 feet (18.6 meters). What is the observed altitude (Ho)?	45°59.3'	45°56.4'	45°52.9'	45°49.8'	
5	2286	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 50°26.9' on 9 November . The index error is 1.5' on the arc. The height of eye is 56 feet (17 meters). What is the observed altitude (Ho)?	50°04.2'	50°18.1'	50°33.5'	50°41.4'	
5	2287	A	You observe the lower limb of the Sun at a sextant altitude (hs) of 34°51.4' on 18 October . The index error is 2.0' off the arc. The height of eye is 54 feet (16.5 meters). What is the observed altitude (Ho)?	35°01.2'	35°03.6'	35°05.2'	35°07.4'	

5	2289	C	You observe the lower limb of the Sun at a sextant altitude (hs) of 38°07.5' on 8 August . The index error is 5.2' off the arc. The height of eye is 72 feet (22 meters). What is the observed altitude (Ho)?	38°08.4'	38°13.3'	38°19.2'	38°23.4'
5	2290	B	You observe the lower limb of the Sun at a sextant altitude (hs) of 75°12.3' on 6 August . The index error is 1.5' off the arc. The height of eye is 32 feet (9.8 meters). What is the observed altitude (Ho)?	75°18.6'	75°24.0'	75°30.7'	75°34.6'
5	2291	A	You are taking a time tick using the 2100 signal from Callao, Peru. You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 09h 00m 10s. When compared to the chronometer, the comparing watch reads 09h 01m 20s, and the chronometer reads 08h 59m 22s. What is the chronometer error?	1m 48s slow	0m 38s slow	1m 10s fast	0m 10s fast
5	2292	D	In addition to those found in the Coast Pilot, information concerning anchorage regulations for this area may be obtained from _____.	Chesapeake Bay Port Authority, Hampton VA	Virginia - Maryland Pilots Association	Commanding General, Corps of Engineers, Washington, D.C.	Office of the Commander 5th Coast Guard District
5	2293	A	As you pass under the Baton Rouge R.R. and Hwy 190 Bridge C233.9 AHP), you find that the Kinder Morgan Bulk Terminals are indicated by which numbered box?	10	9	8	7
5	2294	D	You are passing Eastwood Lt. (mile 849.3 AHP) and the map indicates that Bunge Grain facility would be located at the square with number _____.	4	6	8	10
5	2296	A	If your vessel is making turns for 7.5 mph with an estimated average current of 1.5 mph, what is your ETA at the dock in Angelina, LA?	1621, 28 Dec	2203, 28 Dec	0516, 29 Dec	1621, 29 Dec
5	2297	C	The Platte River empties into which river?	Mississippi	Ohio	Missouri	Tennessee
5	2319	C	You complete changing out your tow and get underway enroute Ark City Tank Storage (mile 554.0 AHP) to deliver the tank barges. What is the distance you must travel from Cairo Point Light?	606.8 miles	554.0 miles	399.8 miles	202.1 miles

5	2320	B	The highest point on your towboat is 48 feet above the water, and the Memphis Gage reads +7.5 feet. What is the vertical clearance when you pass under the Hernando Desoto Bridge in Memphis?	48.0 feet	53.2 feet	68.2 feet	116.0 feet
5	2321	C	At 2350 on 23 June, you are at mile 610.5 AHP when you see about a mile ahead lights on the water near the left bank. What might you see when you come abreast of these lights?	Privately maintained buoys at a yacht club	Government buoys marking the Hurricane Point dikes	Barges moored at the Dennis Landing Terminal	A pipeline discharging dredge spoil
5	2322	A	At 1032 on 24 June, you pass Carolina Landing Light (mile 508.8 AHP). What has been the average current since 2350, 23 June, if you have been making turns for 9.0 mph?	0.5 mph	1.5 mph	5.7 mph	8.5 mph
5	2324	B	At 1547 ZT, on 22 May, in DR position LAT 45° 12.8' N, LONG 028° 15.4' W, the Moon's upper limb is observed on the visible horizon, bearing 120.0° psc. Variation is 2° W. What is the deviation?	1.4°W	2.6°E	1.4°E	2.6°W
5	2325	B	Which publication contains specific information on the characteristics of Chesapeake Bay entrance?	Sailing Directions	Coast Pilot	Chesapeake Bay Harbor-master's Manual	Navigator's Manual - Chesapeake Bay
5	2326	A	The Coast Guard announces that Chesapeake Channel is closed indefinitely due to a collision in the channel between Trestle "B" and "C" of the Chesapeake Bay Bridge and Tunnel. You exit York Spit Channel, leaving buoy "22" close abeam to port at 0.1 mile, and alter course to leave Horseshoe Crossing Lighted Bell Buoy "HC" abeam to port at 0.2 mile. What is the course per gyrocompass?	185°pgc	188°pgc	191°pgc	194°pgc
5	2327	C	After you enter Thimble Shoal Channel, you will alter course to pass between Trestle "A" and "B". Based upon your present position, passing buoy "12" to port, what is TRUE?	You are required to proceed outbound in the North Auxiliary Channel to avoid ferry traffic	You may proceed outbound in Thimble Shoal Channel	You should cross the main channel and proceed outbound in the South Auxiliary Channel	Water depth is 38 feet.
5	2328	B	As you pass through the Chesapeake Bay Bridge and Tunnel, you sight Trestle "B" in line bearing 018°pgc. What is the gyro error by observation?	2°E	0°	2°W	4°W

5	2329	A	You sighted Trestle "B" in line at 0706 and are steering 108°T. At 0731, Cape Henry Light bears 136°T; Cape Charles Light bears 032.5°T; and Thimble Shoal Tunnel South Light bears 282°T. What was the speed made good between 0706 and 0731?	8.3 knots	8.8 knots	9.2 knots	9.4 knots	
5	2330	B	At 0731, what is the approximate depth of water?	31 feet (9.4 meters)	41 feet (12.5 meters)	52 feet (15.7 meters)	58 feet (17.6 meters)	
5	2331	D	What is the coastwise distance from your 0731 fix to Wilmington, DE (LAT 39°43.2'N, LONG 75°31.5'W)?	339 miles	309 miles	245 miles	221 miles	
5	2332	A	If you are making 8.3 knots over the ground, what is your ETA at the turning point in York Spit Channel at buoy "29"?	0521	0509	0459	0448	
5	2333	D	You observe the lower limb of the Sun at a sextant altitude (hs) of 37°47.2' on 11 October . The index error is 3.0' off the arc. The height of eye is 63 feet (19.2 meters). What is the observed altitude (Ho)?	37°25.2'	37°42.5'	37°51.5'	37°57.5'	
5	2351	A	What is the distance in river miles, from the new mouth of the White River to the Petroleum Fuel & Terminal Co. (mile 144.6 AHP)?	454 miles	427 miles	384 miles	370 miles	
5	2367	B	At 0850, 4 January, you pass the Gage at Natchez, MS which reads 26.8 feet. The low water reference plane (LWRP) for Natchez is 6.1 feet. What is the water level in relation to the low water reference plane?	20.7 ft below	20.7 ft above	32.9 ft below	32.9 ft above	
5	2368	B	At 2100, January 12, you are passing Cherokee Landing Lt. (mile 112.5 UMR). What has been your speed over the ground since leaving St. Louis, MO (mile 181 UMR).	10.4 mph	9.8 mph	9.2 mph	8.8 mph	
5	2370	B	As you pass under the Vicksburg Bridges, you estimate the current as 3.0 mph. What is the speed over the ground, if your vessel is making turns for 10.5 mph?	16.5 mph	13.5 mph	10.5 mph	7.5 mph	
5	2371	C	Which of the following statements are TRUE?	Oil well structures are listed in the Light List.	All aids to navigation with lights have lateral significance.	On the Western Rivers, crossing marks may exhibit white lights.	None of the above.	

5	2392	C	Which company does NOT have a marine facility in Rosedale harbor (mile 585 AHP)?	Sanders Elevator Corp	Rosedale-Boliver County Port Commission	T.L. James	Cives Steel Company	
5	2402	D	You will enter waters governed by the International Rules when _____.	you cross the territorial sea boundary line	enter the pilotage area	you cross the boundary of the contiguous zone	Cape Henry Light bears 202°T	
5	2403	C	At 0812, you take the following loran readings: 9960-X-27155.2 9960-Y-41264.5 9960-Z-58536.2 What is your 0812 position?	LAT 36°53.7'N, LONG 75°56.0'W	LAT 36°53.8'N, LONG 75°56.1'W	LAT 36°54.4'N, LONG 75°55.9'W	LAT 36°54.6'N, LONG 75°55.8'W	
5	2404	B	At 0812, you are on course 132°T. The standard magnetic compass reads 135°. What should you conclude?	The deviation table is correct for that heading.	Your compass may be influenced by a local magnetic disturbance.	You should adjust the magnetic compass.	The deviation is increasing as you go south.	
5	2424	C	As you approach mile 225 AHP, you notice on the map a brown broken-lined rectangular shaped area along the bank. This indicates _____.	weirs	a revetment	a fleeting area	utility crossing	
5	2425	A	You are taking a time tick using the 2100 signal from Callao, Peru. You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 09h 00m 07s. When compared to the chronometer, the comparing watch reads 09h 01m 12s, and the chronometer reads 08h 59m 32s. What is the chronometer error?	1m 33s slow	0m 28s slow	1m 05s fast	0m 07s fast	
5	2442	B	Anchorage regulations for this area may be obtained from _____.	Office of Commander 2nd Coast Guard District	District Engineer, Corps of Engineers, Norfolk, VA	Virginia - Maryland Pilots Association	Chesapeake Bay Port Authority, Hampton VA	
5	2454	B	What is the width of the widest span of the Cairo Highway Bridge (Upper Mississippi River mile 1.3)?	800 feet	675 feet	625 feet	503 feet	
5	2531	A	When you pass under the Jefferson Barracks Highway Bridge (mile 168.6 UMR) what will be your vertical clearance if the highest point on your towboat is 55 feet and the St Louis Gage reads 21 feet?	11.8 feet	14.6 feet	19.7 feet	25.8 feet	

5	2532	C	At 0715, on March 9, you pass Knox Landing Gage (C313.8 AHP) and estimate the current will average 3.5 mph for the remainder of the time on the Mississippi River. What is your ETA at the mouth of the Ohio River if you increase speed to turn for 10 mph?	0640, 11 March	0554, 12 March	0943, 13 March	1242, 13 March	
5	2533	D	In high water conditions, which publication would you consult for the latest information on buoys between Baton Rouge and Cairo?	List of Buoys and Daymarks	Coast Pilot	Army Corps. of Engineers Navigation Chart	U.S.C.G. Local Notice to Mariners	
5	2534	C	Your company wants to know at what time you will be arriving at the fleeting area at Sycamore Chute Light (mile 740.3 AHP) in Memphis, TN. You are making turns for 9.0 mph and you estimate the average current at 2.2 mph. Figuring the distance and time from Hole in the Wall Lt. (mile 373.4 AHP), what is your ETA at Sycamore Chute Lt.?	0557, April 19th	1045, April 19th	1242, April 19th	1733, April 19th	
5	2535	C	What is the mile point of Hickman, KY Gage?	846.4 AHP	889.0 AHP	922.0 AHP	937.2 AHP	
5	2577	A	On 23 July, you take a time tick using the 0900 GMT Cape Town broadcast. You hear a repeating series of 59 dots followed by a dash. At the beginning of the fifth dash you start your stopwatch. The chronometer reads 08h 39m 16s at the time the stopwatch reads 01m 42s. The chronometer error at 0900 GMT, 22 July, was 22m 24s slow. What is the chronometer rate?	00m 02s losing	01m 02s gaining	22m 24s losing	22m 26s slow	
5	2578	C	On 12 November, you are taking a time tick using the 1600 GMT BBC Broadcast. You hear five pulses followed by a longer pulse. At the start of the longer pulse you start a stopwatch. You stop the stopwatch at the same time reading the chronometer with the following results: stopwatch 03m 19s, chronometer 15h 59m 46s. What is the chronometer error?	01m 14s slow	03m 19s fast	03m 33s slow	06m 54s slow	
5	2581	D	At 1732, Bartlett Reef Lt bears 016°psc. Race Rock Lt bears 125.5°psc with a radar range of 4.4 miles. What is the set and drift?	116°, 0.4 knot	116°, 1.0 knot	296°, 0.4 knot	296°, 1.0 knot	
5	2582	B	From your 1750 GPS position at LAT 41°15.6'N, LONG 072°11.5'W, you plot a course of 255°T at 8.5 kts. At what time would you see Falkner Island Light, if visibility is 10 miles?	1819	1850	1910	1917	

5	2583	C	You lose GPS and are navigating solely on LORAN. What LORAN line would you follow to leave Six Mile Reef buoy "8C" abeam to port at 1.0 mile?	9960-W-14885.0	9960-Y-43980.5	9960-Y-43982.0	9960-Y-43983.5
5	2584	B	At 1930 you obtain two radar ranges: Hammonasset Point at 4.1 miles and the East side of Falkner Island at 7.6 miles. What is your position?	LAT 41°11.2'N, LONG 072°30.6'W	LAT 41°11.7'N, LONG 072°29.2'W	LAT 41°11.8'N, LONG 072°29.6'W	LAT 41°11.9'N, LONG 072°29.2'W
5	2585	A	At 2000 you plot your position as: LAT 41°11'N, LONG 072°35'W. The set and drift is 095°T at 0.8 knot. What course must you steer, and what engine speed must you turn, in order to make good 255°T at 8.5 knots?	257°T, 9.3 knots	253°T, 9.3 knots	257°T, 7.7 knots	253°T, 7.7 knots
5	2586	C	At 2100 Branford Reef Light bears 347°psc and Falkner Island Light bears 059°psc. You also get a radar range of 5.3 miles from Branford Reef Light. What are your LORAN readings?	14994.0, 26473.0, 43982.0	14994.5, 26482.0, 43982.0	14996.0, 26477.5, 43981.0	14997.5, 26479.5, 43981.0
5	2587	C	What VHF frequency would you use to listen to a weather forecast for the eastern part of Long Island Sound?	156.65 MHz	156.85 MHz	162.475 MHz	162.775 MHz
5	2588	B	At 2130 New Haven buoy "NH" bears 337° per gyro compass and Middle Ground Lt bears 254° per gyro compass. You must arrive 0.3 miles off Port Jefferson buoy "PJ" at 2300. What speed will you have to make good, for arrival at 2300?	9.0 knots	9.3 knots	9.6 knots	10.7 knots
5	2589	D	From the 2130 position, you steer 236°T at 10 knots. A strong northerly wind is causing 4° of leeway. What course must you steer per standard compass, to make good 236°T?	232° psc	240° psc	244° psc	252° psc
5	2590	C	You have maneuvered for traffic and at 2215 your LORAN readings are: 26567.5 and 15089.5. What course must you steer to arrive at buoy "PJ", passing 0.5 nm off "Mt Misery Shoal"?	237° psc	257° psc	261° psc	265° psc
5	2591	D	Which statement best describes the shoreline at Mount Misery?	Wooded, barren hills with a rocky beach	Low, rocky cliffs with heavily wooded hills inland	Sand dunes and beaches with a mud and sand bottom	Sand bluffs 60 feet high and banks dug out by sand and gravel companies
5	2592	A	What chart would you need to enter Port Jefferson Harbor?	12362	12364	12369	12370

5	2593	B	At 2315, you are notified that the Port Jefferson pilot will be delayed. Old Field Point Light bears 257°T, Stratford Shoal Middle Ground Light bears 355°T and Port Jefferson East Breakwater Light bears 171°T. What is the depth under the keel at this time on December 4, 1983?	41 feet	47 feet	51 feet	57 feet
5	2594	D	What will be the current at Port Jefferson entrance at 0130 on December 5, 1983?	1.4 knots, flood	1.4 knots, ebb	0.8 knot, flood	0.8 knot, ebb
5	2595	A	At 0145 you take on the pilot and are inbound Port Jefferson. The ship's heading is 147°pgc when lined up on the Port Jefferson range. What is your gyro error?	1° W	1° E	2° E	0°
5	2651	B	You are steering 246°T, and a light is picked up dead ahead at a distance of 14 miles at 1037. You change course to pass the light 2.5 miles off abeam to port. If you are making 12 knots, what is your ETA at the position 2.5 miles off the light?	1143	1146	1149	1152
5	2652	C	You are steering 163°T, and a light is picked up dead ahead at a distance of 11 miles at 0142. You change course to pass the light 2 miles off abeam to starboard. If you are making 13 knots, what is your ETA at the position 2 miles off the light?	0226	0229	0232	0235
5	2653	C	You are steering 019°T, and a light is picked up dead ahead at a distance of 11.6 miles at 0216. You change course to pass the light 3 miles off abeam to port. If you are making 14 knots, what is your ETA at the position 3 miles off the light?	0258	0301	0304	0307
5	2654	A	You are steering 231°T, and a light is picked up dead ahead at a distance of 12.3 miles at 0338. You change course to pass the light 4 miles off abeam to starboard. If you are making 16.5 knots, what is your ETA at the position 4 miles off the light?	0420	0423	0426	0429
5	2655	B	You are steering 078°T, and a light is picked up dead ahead at a distance of 15.6 miles at 2316. You change course to pass the light 4.5 miles off abeam to port. If you are making 17 knots, what is your ETA at the position 4.5 miles off the light?	0006	0009	0012	0015

5	2656	A	You are steering 257°T, and a light is picked up dead ahead at a distance of 13.3 miles at 2016. You change course to pass the light 4 miles off abeam to starboard. If you are making 18.5 knots, what is your ETA at the position 4 miles off the light?	2057	2100	2103	2113
5	2657	C	You are steering 349°T, and a light is picked up dead ahead at a distance of 17.2 miles at 2122. You change course to pass the light 4.5 miles off abeam to port. If you are making 19.5 knots, what is your ETA at the position 4.5 miles off the light?	2207	2210	2213	2216
5	2658	B	You are steering 202°T, and a light is picked up dead ahead at a distance of 14.6 miles at 2234. You change course to pass the light 5 miles off abeam to starboard. If you are making 21 knots, what is your ETA at the position 5 miles off the light?	2310	2313	2316	2319
5	2659	A	You are steering 115°T, and a light is picked up dead ahead at a distance of 16.7 miles at 0522. You change course to pass the light 3.5 miles off abeam to port. If you are making 12 knots, what is your ETA at the position 3.5 miles off the light?	0644	0647	0650	0653
5	2660	C	You are steering 287°T, and a light is picked up dead ahead at a distance of 19.4 miles at 0419. You change course to pass the light 4 miles off abeam to starboard. If you are making 13 knots, what is your ETA at the position 4 miles off the light?	0541	0544	0547	0550
5	2662	A	You are on course 006°T, speed 16.6 knots. At 0516 you see a light bearing 008°T at a range of 10.2. If you change course at 0528 to leave the light abeam to port at 1.0 mile, at what time will the light be abeam?	0553	0556	0604	0607
5	2663	D	You are on course 035°T, speed 18.3 knots. At 0719 you see a buoy bearing 036°T at a range of 4.1. If you change course at 0725 to leave the buoy abeam to port at 1.0 mile, at what time will the buoy be abeam?	0740	0738	0735	0732

5	2664	B	You are on course 061°T, at a speed of 12.4 knots. At 0839 you see a rock bearing 059°T at a range of 4.4 miles. If you change course at 0845 to leave the rock abeam to starboard at 1.5 mile, at what time will the rock be abeam?	0854	0859	0903	0906
5	2665	C	You are on course 079°T, speed 11.2 knots. At 0904 you see a daymark bearing 078°T at a range of 4.6. If you change course at 0910 to leave the daymark abeam to starboard at 0.5 mile, at what time will the daymark be abeam?	0918	0923	0928	0935
5	2666	A	You are on course 086°T, speed 11.7 knots. At 1013 you see a buoy bearing 088°T at a range of 4.8 miles. If you change course at 1019 to leave the buoy abeam to port at 1.0 mile, at what time will the buoy be abeam?	1037	1040	1043	1052
5	2667	C	Your vessel is on a course of 255°T, at 14 knots. At 2126 a lighthouse is sighted dead ahead at a distance of 11 miles. You change course at this time to pass the lighthouse 3 miles abeam to port. What will be your ETA at this position off the lighthouse?	2149	2201	2211	2228
5	2668	B	Your vessel is on a course of 255°T, at 14 knots. At 2116 a lighthouse is sighted dead ahead at a distance of 11 miles. You change course at this time to pass the lighthouse 3 miles abeam to port. What will be your ETA at this position off the lighthouse?	2149	2201	2212	2228
5	2669	B	You are steering 143°T, and a light is picked up dead ahead at a distance of 18.2 miles at 2006. You change course to pass the light 5.5 miles off abeam to port. If you are making 14.5 knots, what is your ETA at a position 5.5 miles off the light?	2115	2118	2121	2124
5	2671	B	While on a course of 349°T, a light bears 13° on the starboard bow at a distance of 10.8 miles. What course should you steer to pass 2.5 miles abeam of the light leaving it to starboard?	346°T	349°T	352°T	355°T
5	2672	C	While on a course of 283°pgc, a light bears 10° on the port bow at a distance of 8.3 miles. What course should you steer to pass 3.5 miles abeam of the light leaving it to port?	289°pgc	294°pgc	298°pgc	302°pgc

5	2673	C	At 2221 your course is 222°pgc at a speed of 11.2 knots, when radar detects a buoy bearing 355° relative, at a range of 5.8 miles. The gyro error is 2°E. If you change course at 2226, what course should you steer to leave the buoy 1.0 mile abeam to port?	206°pgc	210°pgc	228°pgc	231°pgc
5	2674	A	You are steaming on course 126°T at 14.8 knots. At 1022 you sight a buoy bearing 128°T, at a range of 4.8 miles. If you change course at 1026, what true course will you steer to leave the buoy 0.5 mile abeam to port?	136°	133°	122°	119°
5	2675	D	At 1423 you are on course 072 T° at 12.2 knots, when you sight a rock awash bearing 070°T at a range of 3.6 miles. If you change course at 1427, what course would you steer to leave the rock 1.0 mile abeam to port?	049°	054°	086°	091°
5	2676	B	While on a course of 019°pgc, a light bears 14° on the port bow at a distance of 15.3 miles. What course should you steer to pass 1.5 miles abeam of the light, leaving it to port?	006°pgc	011°pgc	013°pgc	015°pgc
5	2677	A	You sight a light 9° on your starboard bow at a distance of 21 miles. Assuming you make good your course, what will be your distance off the light when abeam?	3.3 miles	3.7 miles	4.0 miles	4.3 miles
5	2678	C	You are running coastwise on a course of 323°T, and you have a buoy bearing 11° on your port bow at a distance of 7 miles. You desire to leave the buoy abeam to port at a distance of 2.5 miles. What course should you steer?	291°T	312°T	333°T	344°T
5	2680	B	While on course 321°pgc with a 1°W gyro error, you pick up a buoy on radar bearing 001° relative at 5.2 miles. What will be the course to pass the buoy by 1 mile abeam to starboard, if you change course when the buoy is 4.5 miles away?	305°T	310°pgc	316°T	336°pgc
5	2681	B	Your vessel is on course 312°pgc and you sight a lighthouse dead ahead at a range of 10 miles. The gyro error is 3°E. What course would you steer to leave the lighthouse 1.5 miles abeam to starboard?	309°pgc	304°pgc	309°T	304°T

5	2682	A	While on a course of 066°pgc, a light bears 18° on the port bow at a distance of 12.3 miles. What course should you steer to leave the light 4 miles abeam to port?	067°pgc	072°pgc	079°pgc	085°pgc
5	2683	C	You are underway on a course of 135°pgc at 15 knots, and you sight a lighthouse dead ahead at a range of 12.5 miles at 1145. What course would you steer to leave the lighthouse 3.0 miles off your port beam?	117°pgc	121°pgc	149°pgc	154°pgc
5	2684	C	You are steering 173°T, and a light is picked up dead ahead at a distance of 13.9 miles at 0054. You change course to pass the light 4.5 miles off abeam to port. If you are making 21 knots, what is your ETA at the position 4.5 miles off the light?	0122	0125	0131	0134
5	2685	C	You are steering 031°T, and a light is picked up dead ahead at a distance of 12.7 miles at 0017. You change course to pass the light 3.5 miles off abeam to starboard. If you are making 11 knots, what is your ETA at the position 3.5 miles off the light?	0118	0121	0124	0127
5	2686	B	While on a course of 034°pgc, a light bears 8° on the port bow at a distance of 8.8 miles. What course should you steer to pass 2.5 miles abeam of the light leaving it to port?	035°pgc	043°pgc	051°pgc	059°pgc
5	2687	D	While on a course of 321°T, a light bears 7° on the starboard bow at a distance of 9.7 miles. What course should you steer to pass 3.5 miles abeam of the light leaving it to starboard?	297°T	300°T	303°T	307°T
5	2688	C	While on a course of 214°pgc, a light bears 9° on the port bow at a distance of 7.4 miles. What course should you steer to pass 2 miles abeam of the light leaving it to port?	189°pgc	209°pgc	221°pgc	229°pgc
5	2689	A	You are steering 107°T, and a light is picked up dead ahead at a distance of 11 miles at 0847. You change course to leave the light 3 miles off to starboard. If you are making 15.5 knots, what is your ETA at the position 3 miles off the light?	0928	0931	0934	0937

5	2690	B	While on a course of 066°pgc, a light bears 13° on the port bow at a distance of 12.3 miles. What course should you steer to pass 4 miles abeam of the light leaving it to port?	067°pgc	072°pgc	079°pgc	085°pgc
5	2691	A	While on a course of 159°T, a light bears 11° on the starboard bow at a distance of 10.6 miles. What course should you steer to pass 2 miles abeam of the light leaving it to starboard?	159°T	163°T	167°T	171°T
5	2692	C	While on a course of 097°pgc, a light bears 8° on the port bow at a distance of 11.7 miles. What course should you steer to pass 3 miles abeam of the light leaving it to port?	082°pgc	091°pgc	104°pgc	112°pgc
5	2693	B	While on a course of 279°T, a light bears 12° on the starboard bow at a distance of 9.3 miles. What course should you steer to pass 4 miles abeam of the light leaving it to starboard?	253°T	265°T	291°T	305°T
5	2694	B	While on a course of 152°T, a light bears 9° on the port bow at a distance of 11.6 miles. What course should you steer to pass 3 miles abeam of the light leaving it to port?	153°	158°	163°	167°
5	2695	C	You are underway on course 017°T at a speed of 14.2 knots. You sight a buoy bearing 025°T at a radar range of 3.7 miles at 1947. If you change course at 1953, what is the course to steer to leave the buoy abeam to starboard at 0.1 mile?	021°T	024°T	027°T	030°T
5	2696	B	You are underway on course 059°T at a speed of 13.8 knots. You sight a light bearing 064°T at a radar range of 5.1 miles at 1839. If you change course at 1845, what is the course to steer to leave the light abeam to starboard at 1.0 mile?	047°T	050°T	053°T	058°T
5	2697	C	You are underway on course 106°T at a speed of 15.3 knots. You sight a buoy bearing 109°T at a radar range of 3.6 miles at 1725. If you change course at 1728, what is the course to steer to leave the buoy abeam to port at 0.5 mile?	100°T	117°T	120°T	125°T

5	2698	A	While on a course of 138°T, a light bears 14° on the starboard bow at a distance of 8.6 miles. What course should you steer to pass 3 miles abeam of the light leaving it to starboard?	132°T	135°T	138°T	141°T
5	2699	A	You are underway on course 137°T at a speed of 16.2 knots. You sight a rock bearing 134°T at a radar range of 4.6 miles at 1508. If you change course at 1514, what is the course to steer to leave the rock abeam to port at 1.5 miles?	162°T	158°T	154°T	151°T
5	2700	A	You are underway on course 163°T at a speed of 15.8 knots. You sight a buoy bearing 161°T at a radar range of 5.5 miles at 1319. If you change course at 1325, what is the course to steer to leave the buoy abeam to starboard at 1.0 mile?	145°T	148°T	151°T	175°T
5	2701	C	You are underway on course 204°T at a speed of 17.3 knots. You sight a light bearing 205°T at a radar range of 4.7 miles at 1222. If you change course at 1228, what is the course to steer to leave the light abeam to port at 1.5 miles?	223°T	229°T	236°T	240°T
5	2702	B	You are underway on course 241°T at a speed of 18.2 knots. You sight a daymark bearing 241°T at a radar range of 3.9 miles at 1006. If you change course at 1009, what is the course to steer to leave the daymark abeam to starboard at 1.0 mile?	218°T	222°T	257°T	260°T
5	2703	C	You are underway on course 254°T at a speed of 16.5 knots. You sight a rock bearing 255°T at a radar range of 6.1 miles at 0916. If you change course at 0922, what is the course to steer to leave the rock abeam to starboard at 1.5 miles?	268°T	239°T	236°T	233°T
5	2704	D	You are underway on course 340°T at a speed of 14.8 knots. You sight a buoy bearing 342°T at a radar range of 4.8 miles at 1422. If you change course at 1428, what is the true course to steer to leave the buoy abeam to port at 1.0 mile?	327°T	354°T	357°T	001°T

5	2705	D	While on a course of 192°T, a light bears 11° on the starboard bow at a distance of 12.7 miles. What course should you steer to pass 3 miles abeam of the light leaving it to starboard?	167°T	173°T	185°T	189°T
5	2706	D	While on a course of 216°pgc, a light bears 12° on the port bow at a distance of 11.2 miles. Which course should you steer to pass 2 miles abeam of the light leaving it to port?	208°pgc	210°pgc	212°pgc	214°pgc
5	2707	A	You are underway on course 128°T at a speed of 17.6 knots. You sight a daymark bearing 126°T at a radar range of 4.3 miles at 1649. If you change course at 1654, what is the course to steer to leave the daymark abeam to starboard at 0.5 mile?	113°T	116°T	119°T	136°T
5	2708	C	While on a course of 349°T, a light bears 13° on your starboard bow at a distance of 10.8 miles. What course should you steer to pass 2.5 miles abeam of the light, leaving it to starboard?	323°	336°	349°	002°
5	2709	B	If the highest point of your towboat is 54 feet above the water and the Natchez Gage reads 24.8 feet, what will be your vertical clearance when passing under the Natchez-Vidalia westbound Highway Bridge?	35.9 feet	47.2 feet	49.6 feet	57.5 feet
5	2710	A	What does the circle with black and white quadrants across from Morgan Point Landing (769.0 miles AHP) represent?	Gage reading	Day Beacon	Light Tower	Speed zone
5	2711	C	Which light characteristics does Foster Light have?	1 green flash every 4 seconds	1 red flash every 4 seconds	2 white flashes every 5 seconds	2 red flashes every 5 seconds
5	2712	C	What is the length of the trip?	720.8 miles	777.4 miles	897.2 miles	906.3 miles
5	2716	D	The charts show two dashed lines crossing the river just south of St. Catherine Bar Light. What does this indicate?	Overhead power lines	Louisiana-Mississippi ferry crossings	Two railroad trestles	Two submerged oil pipelines
5	2717	B	The Natchez Gage reads 16.3 feet. The high point on your towboat is 38 feet above water. What is the vertical clearance when you pass under the Natchez Highway Bridge?	79.0 feet	71.7 feet	65.2 feet	59.1 feet
5	2718	B	What organization has an installation at the uppermost end of Carthage Revetment?	City of Natchez (waterfront)	River Cement Co.	J.M. Jones Lumber	International Paper Co.

5	2719	C	If the Gage at the Greenville Highway Bridge reads 22.0 feet, and the low water reference plane (LWRP) for Greenville (Bridge). MS is 11.3 feet. What is the water level in relation to the low water reference plane?	22.1 feet below the LWRP	10.7 feet below the LWRP	10.7 feet above the LWRP	0.5 feet below the LWRP	
5	2720	A	Which company utility crossing is at mile 529.7 AHP?	Texas Gas Transmission Corp. submerged gas pipeline	Tennessee Gas Co. submerged gas pipeline	ANR Pipeline Co. submerged gas pipeline	Trunkline Gas Co. submerged gas pipeline	
5	2776	B	The charts show a circle with two black quadrants located at mile 846.0 AHP. What does this indicate?	Hazardous chemical dock	River Gage	Betz-Tipton Veneers Terminal	Bulletin Board	
5	2777	D	The Helena Gage reads 2.3 feet. The high point on your towboat is 26 feet above water. What is the vertical clearance when you pass under the Helena Highway Bridge?	76.0 feet	84.2 feet	89.5 feet	90.7 feet	
5	2778	D	What company does NOT have a marine facility along the river bank in Helena (mile 658 to 665 AHP)?	Texas Eastern Pipeline Co.	Helena Port Terminal, Inc.	Arkansas Power & Light Co.	Helena Grain Co.	
5	2779	C	If the Fair Landing, AR. Gage reads -1.2 feet, what is the water level in relation to the low water reference plane? The low water reference plane (LWRP) for Fair Landing, AR. is -0.9 feet.	2.1 foot above the plane	0.3 foot above the plane	0.3 feet below the plane	1.2 feet below the plane	
5	2780	C	Which type of daymark will you see as you approach Old Levee Light (mile 385.2 AHP)?	Green diamond	Red square	Green square	Private aid - no daymark	
5	2781	D	Your engine speed is 9.8 mph and you estimate the current at 1.6 mph. What is your speed over the ground?	11.0 mph	9.8 mph	8.6 mph	8.2 mph	
5	2782	A	What is your ETA at the Helena Highway Bridge?	1335, 24 Sept	1109, 24 Sept	0926, 24 Sept	0458, 24 Sept	
5	2783	A	Which daymark would you see as you approach Red Store Light (mile 269.5 AHP)?	Green square	Green triangle	Green diamond	Red square	
5	2784	B	You pass Ratcliff Light (mile 289.8) at 1650. What was your average speed since leaving Baton Rouge?	7.3 mph	7.6 mph	8.0 mph	8.3 mph	
5	2785	A	At 1650 you decrease speed to make good 7.1 mph. At 2020 you are _____.	abeam of Old River Control Structure Light	entering the Vicksburg District of the U.S. Army Corps. of Engineers	at Palmetto Point	at Latitude 31°10'N	

5	2786	B	At 1030, 13 January, you are passing Columbus Point Lt. (mile 936.1 AHP). What has been your average speed since leaving St. Louis (mile 181 UMR) on the 12th of January at 1400 hours?	10.4 mph	9.7 mph	9.4 mph	9.1 mph	
5	2787	A	What is the length of the trip?	1088.5 miles	1332.2 miles	1334.6 miles	1566.4 miles	
5	2788	A	The solid lines extending into the channel at mile 948 AHP are _____.	dikes	revetments	spoil areas	Meadwestvaco pipeline	
5	2851	B	Your vessel is on a course of 297°T at 11 knots. At 0019 a light bears 274.5°T, and at 0048 the light bears 252°T. At what time and at what distance off will your vessel be when abeam of the light?	0102, 2.6 miles	0108, 3.7 miles	0057, 4.6 miles	0117, 5.0 miles	
5	2852	C	Your vessel is on a course of 129°T at 13 knots. At 1937 a light bears 151.5°T. At 2003 the light bears 174°T. At which time and distance off will your vessel be when abeam of this light?	2016, 2.8 miles	2016, 3.9 miles	2021, 3.9 miles	2021, 2.8 miles	
5	2853	A	Your vessel is on a course of 343°T at 14 knots. At 2156 a light bears 320.5°T, and at 2217 the light bears 298°T. At what time and at what distance off will your vessel be when abeam of the light?	2232, 3.4 miles	2235, 4.3 miles	2228, 4.9 miles	2241, 6.9 miles	
5	2854	C	Your vessel is on a course of 221°T at 15 knots. At 0319 a light bears 198.5°T, and at 0353 the light bears 176°T. At what time and at what distance off will your vessel be when abeam of the light?	0407, 4.3 miles	0410, 5.2 miles	0417, 6.0 miles	0427, 7.4 miles	
5	2855	B	Your vessel is on a course of 107°T at 16 knots. At 0403 a light bears 129.5°T, and at 0426 the light bears 152°T. At what time and at what distance off will your vessel be when abeam of the light?	0434, 3.2 miles	0442, 4.3 miles	0434, 4.3 miles	0442, 3.4 miles	
5	2856	D	Your vessel is on a course of 034°T at 17 knots. At 0551 a light bears 056.5°T, and at 0623 the light bears 079°T. At what time and at what distance off will your vessel be when abeam of the light?	0636, 5.9 miles	0646, 5.9 miles	0636, 6.4 miles	0646, 6.4 miles	

5	2857	A	Your vessel is on a course of 253°T at 18 knots. At 2027 a light bears 275.5°T, and at 2055 the light bears 298°T. At what time and at what distance off will your vessel be when abeam of the light?	2115, 5.9 miles	2109, 6.4 miles	2123, 7.3 miles	2104, 7.7 miles	
5	2858	D	Your vessel is on a course of 082°T at 19 knots. At 0255 a light bears 059.5°T, and at 0312 the light bears 037°T. At what time and at what distance off will your vessel be when abeam of the light?	0333, 5.1 miles	0321, 4.7 miles	0327, 4.3 miles	0324, 3.8 miles	
5	2859	B	Your vessel is on a course of 307°T at 20 knots. At 0914 a light bears 284.5°T, and at 0937 the light bears 262°T. At what time and at what distance off will your vessel be when abeam of the light?	0950, 4.4 miles	0953, 5.4 miles	0957, 6.6 miles	1002, 7.1 miles	
5	2860	B	Your vessel is on a course of 144°T at 16 knots. At 0126 a light bears 166.5°T, and at 0152 the light bears 189°T. At what time and at what distance off will your vessel be when abeam of the light?	0205, 4.1 miles	0210, 4.8 miles	0215, 6.0 miles	0220, 6.4 miles	
5	2861	A	Your vessel is on a course of 196°T at 17 knots. At 0417 a light bears 218.5°T, and at 0442 the light bears 241°T. At what time and at what distance off will your vessel be when abeam of the light?	0500, 5.0 miles	0504, 6.2 miles	0500, 6.2 miles	0504, 5.0 miles	
5	2862	B	You are on course 317°T at 13 knots. A light is bearing 22.5° relative at 0640. At 0659 the same light is bearing 45° relative. At what time should the light be abeam?	0709	0712	0718	0721	
5	2863	B	Your vessel is underway on a course of 115°T at 18 knots. At 1850 a lighthouse bears 137.5°T. At 1920, the same lighthouse bears 160°T. What time will the lighthouse pass abeam to starboard?	1929	1941	1949	1955	
5	2864	A	You are steering a course of 316°T, and a light bears 34° on the port bow at 2053. At 2126 the same light bears 68° on the port bow, and you have run 5 miles since the first bearing. What is the ETA when the lighthouse is abeam?	2139	2143	2149	2159	

5	2893	D	You are steaming on a course of 253°T at 14 knots. At 2329 you observe a lighthouse bearing 282°T. At 2345 the lighthouse bears 300°T. What is your distance off at the second bearing?	3.7 miles	4.3 miles	5.2 miles	5.9 miles
5	2894	B	You are steaming on a course of 071°T at 19 knots. At 1907 you observe a lighthouse bearing 122°T. At 1915 the lighthouse bears 154°T. What is your distance off at the second bearing?	3.4 miles	3.7 miles	4.0 miles	4.3 miles
5	2895	C	You are steaming on a course of 246°T at 17 knots. At 2107 you observe a lighthouse bearing 207°T. At 2119 the lighthouse bears 179°T. What is your distance off at the second bearing?	3.9 miles	4.2 miles	4.6 miles	5.1 miles
5	2896	D	You are steaming on a course of 133°T at 16 knots. At 2216 you observe a lighthouse bearing 086°T. At 2223 the lighthouse bears 054°T. What is your distance off at the second bearing?	1.7 miles	2.0 miles	2.3 miles	2.6 miles
5	2897	B	You are steaming on a course of 327°T at 13 knots. At 0207 you observe a lighthouse bearing 020°T. At 0226 the lighthouse bears 042°T. What is your distance off at the second bearing?	8.5 miles	8.9 miles	9.2 miles	9.7 miles
5	2898	A	You are steaming on a course of 267°T at 22 knots. At 0433 you observe a lighthouse bearing 290°T. At 0452 the lighthouse bears 328°T. What is your distance off at the second bearing?	4.5 nm	5.9 nm	6.6 nm	7.2 nm
5	2899	B	You are steaming on a course of 208°T at 21 knots. At 2019 you observe a lighthouse bearing 129°T. At 2030 the lighthouse bears 103°T. What is your distance off at the second bearing?	8.2 miles	8.6 miles	8.9 miles	9.3 miles
5	2900	C	You are steaming on a course of 167°T at 19.5 knots. At 1837 you observe a lighthouse bearing 224°T. At 1904 the lighthouse bears 268°T. What is your distance off at the second bearing?	8.8 miles	9.5 miles	10.4 miles	11.3 miles
5	2901	A	You are steaming on a course of 198°T at 18.5 knots. At 0316 you observe a lighthouse bearing 235°T. At 0348 the lighthouse bears 259°T. What is your distance off at the second bearing?	14.8 miles	15.3 miles	15.8 miles	16.3 miles
5	2902	C	You are steaming on a course of 058°T at 11.5 knots. At 0209 you observe a lighthouse bearing 129°T. At 0252 the lighthouse bears 173°T. What is your distance off at the second bearing?	9.4 miles	10.7 miles	11.2 miles	12.8 miles

5	2903	D	You are steaming on a course of 025°T at 15.5 knots. At 0645 you observe a lighthouse bearing 059°T. At 0655 the same lighthouse bears 075°T. What is your distance off at the second bearing?	1.5 miles	2.6 miles	4.0 miles	5.3 miles	
5	2904	C	Your vessel is on course 093°T at 15 knots. At 1835 a light bears 136°T, and at 1857 the same light bears 170°T. What was your distance off the light at 1857?	6.0 miles	6.4 miles	6.8 miles	7.2 miles	
5	2905	D	You are steaming on a course of 215°T at 14 knots. At 1841 you observe a lighthouse bearing 178°T. At 1904 the same lighthouse bears 156°T. What is your distance off at the second bearing?	5.4 miles	6.6 miles	7.5 miles	8.7 miles	
5	2906	C	You are steaming on a course of 211°T at 17 knots. At 0417 a light bears 184°T, and at 0428 the same light bears 168°T. What is the distance off the light at 0428?	3.4 miles	4.6 miles	5.1 miles	5.6 miles	
5	2907	D	You are running coastwise in hazy weather; the visibility improves just before you pass a lighthouse abeam. Your speed is 15 knots, and the lighthouse was abeam at 1015. At 1037 the lighthouse is 4 points abaft the beam. What is your distance off at the second bearing?	3.9 miles	5.5 miles	6.6 miles	7.8 miles	
5	2908	C	Your vessel is on a course of 223°T at 17 knots. At 1323 a lighthouse bears 318° relative. At 1341 the same lighthouse bears 287° relative. What is your distance off the lighthouse at 1341?	4.3 miles	5.1 miles	6.6 miles	7.8 miles	
5	2909	D	You are running coastwise at 14 knots. You sight a lighthouse abeam at 0912. At 0939 the lighthouse is 4 points abaft the beam. What is your distance off at the second bearing?	5.5 miles	6.3 miles	7.8 miles	8.9 miles	
5	2910	D	Your vessel is steaming on a course of 140°T at 15 knots. At 1530 a lighthouse bears 200°T. At 1550 it bears 249°T. What is your distance from the lighthouse at 1550?	1.15 miles	4.60 miles	5.45 miles	5.75 miles	
5	2911	B	What is indicated by the two light gray shaded areas that cross the river above False River Lt. (mile 251.0 AHP).	Ferry crossings	Utility crossings	Aerial cable crossings	Bridge construction	

5	2912	B	Your vessel is on a course of 079°T at 11 knots. At 0152 a light bears 105.5°T, and at 0209 the light bears 124°T. At what time and at what distance off will your vessel be when abeam of the light?	0219, 2.3 miles	0226, 3.1 miles	0233, 3.9 miles	0242, 4.7 miles
5	2913	A	You are turning for 7.5 mph and estimate the current at 3.0 mph. What is your ETA at the River Cement Co. in Natchez considering that you passed Cherokee Landing Lt. at 2100?	1605 on 15 January	0355 on 16 January	1244 on 16 January	1922 on 16 January
5	3050	D	The propeller on a vessel has a diameter of 23.7 feet and a pitch of 24.8 feet. What would be the apparent slip if the vessel cruised 442 miles in a 23 hour day (observed distance) at an average RPM of 89?	-7.6%	+7.6%	-11.8%	+11.8%
5	3051	A	The propeller on a vessel has a diameter of 20.6 feet and a pitch of 23.4 feet. What would be the apparent slip if the vessel cruised 538 miles in a 24 hour day (observed distance) at an average RPM of 87?	-11.6%	+11.6%	-10.3%	+10.3%
5	3052	D	The propeller on a vessel has a diameter of 21.2 feet and a pitch of 20.0 feet. What would be the apparent slip if the vessel cruised 391 miles in a 24 hour day (observed distance) at an average RPM of 88?	-11.5%	+11.5%	-6.2%	+6.2%
5	3053	A	The propeller on a vessel has a diameter of 19.9 feet and a pitch of 21.6 feet. What would be the apparent slip if the vessel cruised 395 miles in a 23 hour day (observed distance) at an average RPM of 78?	-3.2%	+3.2%	-12.0%	+12.0%
5	3054	B	The propeller on a vessel has a diameter of 22.8 feet and a pitch of 19.3 feet. What would be the apparent slip if the vessel cruised 287 miles in a 24 hour day (observed distance) at an average RPM of 67?	-6.3%	+6.3%	-24.0%	+24.0%
5	3055	C	The propeller on a vessel has a diameter of 24.6 feet and a pitch of 26.1 feet. What would be the apparent slip if the vessel cruised 462 miles in a 24 hour day (observed distance) at an average RPM of 72?	-2.7%	+2.7%	-3.8%	+3.8%

5	3056	A	The propeller on a vessel has a diameter of 18.8 feet and a pitch of 21.4 feet. What would be the slip if the vessel cruised 378 miles in a 24 hour day (observed distance) at an average RPM of 76?	+1.9%	-1.9%	+4.7%	-4.7%
5	3057	C	The propeller on a vessel has a diameter of 25.3 feet and a pitch of 23.2 feet. What would be the apparent slip if the vessel cruised 515 miles in a 23 hour day (observed distance) at an average RPM of 93?	-3.6%	+3.6%	-5.2%	+5.2%
5	3058	D	The propeller on a vessel has a diameter of 20.9 feet and a pitch of 19.6 feet. What would be the apparent slip if the vessel cruised 447 miles in a 23 hour day (observed distance) at an average RPM of 108?	-5.6%	+5.6%	-7.0%	+7.0%
5	3059	B	The propeller on a vessel has a diameter of 21.5 feet and a pitch of 24.5 feet. What would be the apparent slip if the vessel cruised 458 miles in a 23 hour day (observed distance) at an average RPM of 78?	+5.6%	-5.6%	+12.3%	-12.3%
5	3060	C	The propeller on a vessel has a diameter of 24.0 feet and a pitch of 21.3 feet. What would be the slip if the vessel cruised 510 miles in a 24 hour day (observed distance) at an average RPM of 86?	-12.2%	+12.2%	-17.5%	+17.5%
5	3061	A	The propeller on a vessel has a diameter of 20.2 feet and a pitch of 19.0 feet. What would be the apparent slip if the vessel cruised 367 miles in a 24 hour day (observed distance) at an average RPM of 84?	+2.9%	-2.9%	+5.2%	-5.2%
5	3062	C	The propeller on your vessel has a pitch of 22.8 feet. From 0800, 18 April, to 1020, 19 April, you steamed an observed distance of 403.6 miles. If your average RPM was 74, what was the slip?	+7.0%	-7.0%	+8.0%	-8.0%
5	3063	C	The observed distance for a day's run was 302.7 miles. The propeller had a pitch of 20'06", and the average RPM was 67. What was the slip?	+0.7%	-0.7%	+7.0%	-7.0%

5	3064	A	The propeller of a vessel has a pitch of 19.0 feet. If the vessel traveled 183.5 miles (observed distance) in 24 hours at an average of 44 RPM, what was the slip?	+7.4%	-7.4%	+11.6%	-11.6%
5	3065	C	The propeller on your vessel has a pitch of 18'09". If the observed distance for a day's run was 399.4 miles and the average RPM was 86, which statement is TRUE?	The slip is a positive 5%.	The day's run by engine RPM was 404.5 miles.	The slip is a negative 5%.	The day's run by engine RPM was 390.6 miles.
5	3066	B	The observed noon to noon run for a 24 hour period is 489 miles. The average RPM for the day was 95. The pitch of the wheel is 22.5 feet. What is the slip of the wheel?	+3.2%	+3.4%	+3.7%	+3.9%
5	3067	B	From 1020, 3 March, to 1845, 5 March, your vessel steamed an observed distance of 845.6 miles. The average RPM was 78, and the pitch of the propeller was 20'03". What was the slip?	-4%	+4%	-8%	+8%
5	3068	B	Your vessel's propeller has a pitch of 22'06". From 0530, 19 March, to 1930, 20 March, the average RPM was 82. The distance run by observation was 721.5 miles. What was the slip?	+4%	-4%	+7%	-7%
5	3069	A	If the speed necessary for reaching port at a designated time is 18.5 knots and the pitch of the propeller is 21.7 feet, how many revolutions per minute will the shaft have to turn, assuming a 4% negative slip?	83	90	97	114
5	3070	B	If the speed necessary for reaching port at a designated time is 19.6 knots and the pitch of the propeller is 24.6 feet, how many revolutions per minute will the shaft have to turn, assuming a 5% positive slip?	76	85	97	106
5	3071	C	If the speed necessary for reaching port at a designated time is 20.7 knots and the pitch of the propeller is 23.8 feet, how many revolutions per minute will the shaft have to turn, assuming a 3% negative slip?	74	79	86	98

5	3072	C	If the speed necessary for reaching port at a designated time is 17.4 knots and the pitch of the propeller is 25.6 feet, how many revolutions per minute will the shaft have to turn, assuming a 3% positive slip?	63	67	71	75
5	3073	C	If the speed necessary for reaching port at a designated time is 16.8 knots and the pitch of the propeller is 22.3 feet, how many revolutions per minute will the shaft have to turn, assuming a 4% negative slip?	61	66	73	80
5	3074	B	If the speed necessary for reaching port at a designated time is 19.2 knots and the pitch of the propeller is 22.7 feet, how many revolutions per minute will the shaft have to turn, assuming a 4% positive slip?	82	89	96	103
5	3075	A	If the speed necessary for reaching port at a designated time is 15.7 knots and the pitch of the propeller is 23.4 feet, how many revolutions per minute will the shaft have to turn, assuming a 6% negative slip?	64	68	72	76
5	3076	B	If the speed necessary for reaching port at a designated time is 16.4 knots and the pitch of the propeller is 23.8 feet, how many revolutions per minute will the shaft have to turn, assuming a 6% positive slip?	66	74	82	90
5	3077	A	If the speed necessary for reaching port at a designated time is 23.7 knots and the pitch of the propeller is 20.8 feet, how many revolutions per minute will the shaft have to turn, assuming a 7% negative slip?	108	112	116	124
5	3078	D	If the speed necessary for reaching port at a designated time is 17.8 knots and the pitch of the propeller is 24.7 feet, how many revolutions per minute will the shaft have to turn, assuming a 7% positive slip?	67	71	75	79
5	3079	C	If the speed necessary for reaching port at a designated time is 18.2 knots and the pitch of the propeller is 23.9 feet, how many revolutions per minute will the shaft have to turn, assuming a 2% negative slip?	70	73	76	79

5	3080	D	If the speed necessary for reaching port at a designated time is 21.6 knots and the pitch of the propeller is 22.5 feet, how many revolutions per minute will the shaft have to turn, assuming a 2% positive slip?	81	87	95	99
5	3081	D	If the speed necessary for reaching port at a designated time is 12.6 knots and the pitch of the propeller is 13.6 feet, how many revolutions per minute will the shaft have to turn, assuming no slip?	81	85	90	94
5	3082	D	The speed of advance necessary to arrive in port at a designated time is 15.8 knots. The pitch of the propeller is 20.75 feet. You estimate 5% positive slip. How many RPM must you turn to make the necessary speed?	73.5	76.2	79.9	81.2
5	3083	A	The speed necessary to reach port at a designated time is 18.7 knots. The propeller pitch is 24'03", and you estimate 3% positive slip. How many RPM's will the shaft have to turn?	81 RPM	87 RPM	98 RPM	104 RPM
5	3084	A	If the speed necessary for reaching port at a designated time is 18.6 knots, and the pitch of the propeller is 26.2 feet, how many revolutions per minute will the shaft have to turn, assuming a 4% negative slip.	69	72	75	78
5	3085	A	You must average 16.25 knots to reach port at a designated time. Your propeller has a pitch of 21'08", and you estimate 4% negative slip. How many RPM's must you average to arrive on time?	73 RPM	77 RPM	82 RPM	88 RPM
5	3086	B	If the pitch of the propeller is 19.7 feet, and the revolutions per day are 86,178, calculate the day's run allowing 3% negative slip.	279.2 miles	287.6 miles	311.4 miles	326.2 miles
5	3087	A	If the pitch of the propeller is 20.6 feet, and the revolutions per day are 107,341, calculate the day's run allowing 3% positive slip.	352.7 miles	363.6 miles	374.5 miles	389.1 miles
5	3088	D	If the pitch of the propeller is 21.5 feet, and the revolutions per day are 96,666, calculate the day's run allowing 9% negative slip.	311.1 miles	341.8 miles	357.9 miles	372.6 miles
5	3089	B	If the pitch of the propeller is 22.4 feet, and the revolutions per day are 103,690, calculate the day's run allowing 9% positive slip.	321.7 miles	347.6 miles	382.0 miles	416.4 miles

5	3090	C	If the pitch of the propeller is 26.3 feet, and the revolutions per day are 87,421, calculate the day's run allowing 7% negative slip.	351.7 miles	378.1 miles	404.6 miles	419.3 miles	
5	3091	A	If the pitch of the propeller is 25.1 feet, and the revolutions per day are 91,591, calculate the day's run allowing 7% positive slip.	351.6 miles	378.1 miles	390.0 miles	404.6 miles	
5	3092	B	If the pitch of the propeller is 24.8 feet, and the revolutions per day are 93,373, calculate the day's run allowing 11% positive slip.	307.3 miles	339.0 miles	380.9 miles	422.8 miles	
5	3093	D	If the pitch of the propeller is 23.2 feet, and the revolutions per day are 94,910, calculate the day's run allowing 11% negative slip.	322.3 miles	362.3 miles	382.0 miles	402.0 miles	
5	3094	C	If the pitch of the propeller is 26.7 feet, and the revolutions per day are 131,717, calculate the day's run allowing 4% negative slip.	555.2 miles	578.4 miles	601.6 miles	649.4 miles	
5	3095	A	If the pitch of the propeller is 21.3 feet, and the revolutions per day are 126,214, calculate the day's run allowing 4% positive slip.	424.5 miles	442.1 miles	459.9 miles	477.3 miles	
5	3096	D	If the pitch of the propeller is 20.1 feet, and the revolutions per day are 118,178, calculate the day's run allowing 6% negative slip.	367.2 miles	381.6 miles	398.4 miles	414.1 miles	
5	3097	B	If the pitch of the propeller is 19.4 feet, and the revolutions per day are 96,713, calculate the day's run allowing 6% positive slip.	266.4 miles	290.1 miles	308.6 miles	327.1 miles	
5	3098	C	If the pitch of the propeller is 21.2 feet, and the revolutions per day are 93,660, calculate the day's run allowing 5% positive slip.	163.3 miles	217.8 miles	310.3 miles	342.9 miles	
5	3099	A	The propellers on your twin screw vessel have a pitch of 16'04". What is the distance in a day's run if the average RPM is 94, and you estimate 7% positive slip?	338.3 miles	389.3 miles	676.6 miles	778.6 miles	
5	3100	D	The pitch of the propeller on your vessel is 19'09". You estimate the slip at -3%. If you averaged 82 RPM for the day's run, how many miles did you steam?	370.8	373.6	393.7	395.3	
5	3101	C	You are turning 100 RPM, with a propeller pitch of 25 feet, and an estimated slip of -5%. What is the speed of advance?	24.7 knots	23.5 knots	25.9 knots	22.3 knots	

5	3102	A	You are turning 88 RPM, with a propeller pitch of 19 feet, and an estimated slip of 0%. What is the speed of advance?	16.5 knots	16.9 knots	17.3 knots	18.1 knots	
5	3103	D	You are turning 93 RPM, with a propeller pitch of 25 feet, and an estimated slip of 0%. What is the speed of advance?	20.2 knots	21.9 knots	22.4 knots	22.9 knots	
5	3104	D	You are turning 84 RPM, with a propeller pitch of 22 feet, and an estimated slip of 0%. What is the speed of advance?	16.8 knots	17.7 knots	18.0 knots	18.2 knots	
5	3105	A	You are turning 82 RPM, with a propeller pitch of 23 feet, and an estimated slip of +6%. What is the speed of advance?	17.5 knots	17.9 knots	18.4 knots	19.7 knots	
5	3106	B	You are turning 85 RPM, with a propeller pitch of 19 feet, and an estimated slip of +3%. What is the speed of advance?	14.7 knots	15.5 knots	16.4 knots	17.1 knots	
5	3107	C	You are turning 68 RPM, with a propeller pitch of 18 feet, and an estimated slip of +2%. What is the speed of advance?	10.7 knots	11.5 knots	11.8 knots	12.3 knots	
5	3108	D	You are turning 105 RPM, with a propeller pitch of 17 feet, and an estimated slip of -1%. What is the speed of advance?	15.3 knots	16.9 knots	17.4 knots	17.8 knots	
5	3109	D	You are turning 90 RPM, with a propeller pitch of 24 feet, and an estimated slip of -3%. What is the speed of advance?	18.8 knots	19.2 knots	20.6 knots	21.9 knots	
5	3110	C	You are turning 78 RPM, with a propeller pitch of 21 feet, and an estimated slip of -7%. What is the speed of advance?	14.9 knots	15.7 knots	17.3 knots	17.8 knots	
5	3111	C	You are turning 100 RPM, with propeller pitch of 25 feet, and an estimated negative slip of 5%. What is the speed of advance?	23.4 knots	24.7 knots	25.9 knots	26.3 knots	
5	3112	A	While enroute from Montevideo to Walvis Bay a vessel's course is 116°psc. The variation for the locality is 25°W and the deviation is 6°W. What is the true course made good if a southerly wind produces 1° leeway?	084°T	086°T	148°T	085°T	

5	3250	D	You are taking a time tick using the 1200 signal from Valparaiso, Chile. You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 12h 00m 18s. When compared to the chronometer, the comparing watch reads 12h 01m 23s, and the chronometer reads 11h 59m 35s. What is the chronometer error?	0m 18s fast	1m 05s fast	0m 25s slow	1m 30s slow	
5	3251	C	You have steamed 916 miles at 13 knots, and consumed 166 tons of fuel. If you have 203 tons of usable fuel remaining, how far can you steam at 14 knots?	757 miles	841 miles	966 miles	1108 miles	
5	3252	A	You have steamed 803 miles at 13 knots, and consumed 179 tons of fuel. If you have 371 tons of usable fuel remaining, how far can you steam at 16 knots?	1099 miles	1374 miles	1833 miles	2581 miles	
5	3253	B	You have steamed 925 miles at 13.5 knots, and consumed 181 tons of fuel. If you have 259 tons of usable fuel remaining, how far can you steam at 16 knots?	795 miles	942 miles	1117 miles	1409 miles	
5	3254	B	You have steamed 746 miles at 14.0 knots, and consumed 152 tons of fuel. If you have 201 tons of usable fuel remaining, how far can you steam at 10 knots?	1381 miles	1934 miles	2263 miles	2707 miles	
5	3255	B	You have steamed 836 miles at 14.5 knots, and consumed 191 tons of fuel. If you have 310 tons of usable fuel remaining, how far can you steam at 17 knots?	842 miles	987 miles	1157 miles	1865 miles	
5	3256	C	You have steamed 918 miles at 15.0 knots, and consumed 183 tons of fuel. If you have 200 tons of usable fuel remaining, how far can you steam at 12 knots?	1021 miles	1261 miles	1568 miles	1960 miles	
5	3257	C	You have steamed 824 miles at 15.5 knots, and consumed 179 tons of fuel. If you have 221 tons of usable fuel remaining, how far can you steam at 18 knots?	495 miles	650 miles	754 miles	876 miles	

5	3258	B	You have steamed 525 miles at 16.0 knots, and consumed 105 tons of fuel. If you have 308 tons of usable fuel remaining, how far can you steam at 19 knots?	920 miles	1092 miles	1297 miles	2172 miles	
5	3259	D	You have steamed 607 miles at 17.0 knots, and consumed 121 tons of fuel. If you have 479 tons of usable fuel remaining, how far can you steam at 14.5 knots?	1211 miles	1748 miles	2817 miles	3303 miles	
5	3260	D	You have steamed 726 miles at 17.5 knots, and consumed 138 tons of fuel. If you have 252 tons of usable fuel remaining, how far can you steam at 13.5 knots?	789 miles	1326 miles	1719 miles	2228 miles	
5	3262	D	You have steamed 632 miles at 18.5 knots, and consumed 197 tons of fuel. If you have 278 tons of usable fuel remaining, how far can you steam at 15.0 knots?	681 miles	892 miles	1100 miles	1357 miles	
5	3263	B	You have steamed 1124 miles at 21 knots, and consumed 326 tons of fuel. If you have 210 tons of usable fuel remaining, how far can you steam at 17 knots?	1096 miles	1105 miles	1218 miles	1304 miles	
5	3264	D	You have steamed 1134 miles at 10 knots, and consumed 121 tons of fuel. If you have to steam 1522 miles to complete the voyage, how many tons of fuel will be consumed while steaming at 12 knots?	146 tons	189 tons	200 tons	234 tons	
5	3265	C	You have steamed 1587 miles at 11.2 knots, and have consumed one-half of your total fuel capacity of 2840 bbls. What is the maximum speed you can steam to complete the remaining 1951 miles?	9.1 knots	9.9 knots	10.1 knots	11.6 knots	
5	3266	C	Your vessel has consumed 1087 bbls of fuel after steaming 2210 miles at a speed of 10.75 kts. What is the maximum speed you can steam for the last 1000 miles of the voyage on the remaining 725 bbls, if you estimate 3% of the fuel is not usable?	11.43 knots	11.76 knots	12.84 knots	15.33 knots	

5	3267	A	Your vessel arrives in port with sufficient fuel to steam 726 miles at 16 knots. If you are unable to take on bunkers, at what speed must you proceed to reach your next port, 873 miles distant?	14.6 knots	15.1 knots	16.3 knots	16.8 knots	
5	3268	C	Your vessel arrives in port with sufficient fuel to steam 595 miles at 14 knots. If you are unable to take on bunkers, at what speed must you proceed to reach your next port, 707 miles distant?	12.2 knots	12.5 knots	12.8 knots	14.4 knots	
5	3269	B	Your vessel arrives in port with sufficient fuel to steam 812 miles at 15 knots. If you are unable to take on bunkers, at what speed must you proceed to reach your next port, 928 miles distant?	13.6 knots	14.0 knots	15.3 knots	15.7 knots	
5	3272	A	Your vessel arrives in port with sufficient fuel to steam 775 miles at 17 knots. If you are unable to take on bunkers, at what speed must you proceed to reach your next port, 977 miles distant?	15.1 knots	15.8 knots	17.2 knots	17.7 knots	
5	3273	C	Your vessel arrives in port with sufficient fuel to steam 1175 miles at 19 knots. If you are unable to take on bunkers, at what speed must you proceed to reach your next port, 1341 miles distant?	16.7 knots	17.3 knots	17.8 knots	19.4 knots	
5	3275	C	You have steamed 989 miles at 16.5 knots, and consumed 215 tons of fuel. If you have 345 tons of usable fuel remaining, how far can you steam at 13 knots?	1025 miles	1993 miles	2557 miles	3245 miles	
5	3276	A	While steaming at 15 knots, your vessel burns 326 bbls of fuel per day. What will be the rate of fuel consumption if you decrease speed to 12.2 knots?	175 bbls/day	215 bbls/day	277 bbls/day	300 bbls/day	
5	3277	C	While steaming at 12.3 knots, your vessel burns 168 bbls of fuel per day. What will be the rate of fuel consumption if you increase speed to 13.5 knots?	192 bbls/day	204 bbls/day	222 bbls/day	238 bbls/day	

5	3278	B	While steaming at 14 knots, your vessel burns 276 bbls of fuel per day. What will be the rate of fuel consumption if you decrease speed to 11.7 knots?	135 bbls/day	161 bbls/day	196 bbls/day	245 bbls/day	
5	3279	D	While steaming at 15.0 knots, your vessel consumes 326 barrels of fuel oil per day. In order to reduce consumption to 178 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	8.1 knots	8.5 knots	11.1 knots	12.2 knots	
5	3280	C	While steaming at 14.5 knots, your vessel consumes 319 barrels of fuel oil per day. In order to reduce consumption to 217 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	9.8 knots	11.9 knots	12.8 knots	13.5 knots	
5	3281	C	While steaming at 15.7 knots, your vessel consumes 329 barrels of fuel oil per day. In order to reduce consumption to 267 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	12.7 knots	13.5 knots	14.6 knots	15.5 knots	
5	3282	D	While steaming at 16.3 knots, your vessel consumes 363 barrels of fuel oil per day. In order to reduce consumption to 298 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	12.6 knots	13.1 knots	14.7 knots	15.3 knots	
5	3283	B	While steaming at 17.5 knots, your vessel consumes 378 barrels of fuel oil per day. In order to reduce consumption to 194 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	12.5 knots	14.0 knots	15.5 knots	16.8 knots	
5	3284	D	While steaming at 18.9 knots, your vessel consumes 386 barrels of fuel oil per day. In order to reduce consumption to 251 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	11.6 knots	12.3 knots	15.2 knots	16.4 knots	
5	3285	B	While steaming at 19.4 knots, your vessel consumes 392 barrels of fuel oil per day. In order to reduce consumption to 182 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	13.2 knots	15.0 knots	17.4 knots	18.2 knots	

5	3286	D	While steaming at 14.5 knots, your vessel consumes 242 barrels of fuel oil per day. In order to reduce consumption to 152 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	9.1 knots	10.2 knots	11.5 knots	12.4 knots	
5	3287	B	While steaming at 16.5 knots, your vessel consumes 349 barrels of fuel oil per day. In order to reduce consumption to 189 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	12.1 knots	13.5 knots	14.6 knots	15.4 knots	
5	3288	C	While steaming at 13.5 knots, your vessel consumes 251 barrels of fuel oil per day. In order to reduce consumption to 129 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	6.9 knots	9.7 knots	10.8 knots	12.7 knots	
5	3289	D	While steaming at 17.0 knots, your vessel consumes 382 barrels of fuel oil per day. In order to reduce consumption to 223 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	9.9 knots	11.8 knots	13.0 knots	14.2 knots	
5	3290	B	While steaming at 15.5 knots, your vessel consumes 333 barrels of fuel oil per day. In order to reduce consumption to 176 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?	11.3 knots	12.5 knots	13.6 knots	14.8 knots	
5	3291	A	While steaming at 19.5 knots, your vessel burns 297 bbls of fuel per day. What will be the rate of fuel consumption if you decrease speed to 15 knots?	135 bbls	176 bbls	229 bbls	243 bbls	
5	3292	B	Your vessel consumes 215 barrels of fuel per day at a speed of 18.0 knots. What will be the fuel consumption of your vessel at 14.0 knots?	67 bbls	101 bbls	130 bbls	167 bbls	
5	3293	A	Your vessel consumes 274 barrels of fuel per day at a speed of 17.5 knots. What will be the fuel consumption of your vessel at 13.5 knots?	126 bbls	163 bbls	211 bbls	253 bbls	
5	3294	A	Your vessel consumes 268 barrels of fuel per day at a speed of 19.0 knots. What will be the fuel consumption of your vessel at 15.0 knots?	132 bbls	167 bbls	212 bbls	243 bbls	

5	3295	D	Your vessel consumes 178 barrels of fuel per day at a speed of 13.5 knots. What will be the fuel consumption of your vessel at 15.0 knots?	172 bbls	198 bbls	219 bbls	244 bbls	
5	3296	A	Your vessel consumes 199 barrels of fuel per day at a speed of 14.5 knots. What will be the fuel consumption of your vessel at 10.0 knots?	65 bbls	95 bbls	137 bbls	148 bbls	
5	3297	B	Your vessel consumes 236 barrels of fuel per day at a speed of 16.5 knots. What will be the fuel consumption of your vessel at 13.0 knots?	102 bbls	115 bbls	147 bbls	186 bbls	
5	3298	D	Your vessel consumes 216 barrels of fuel per day at a speed of 15.0 knots. What will be the fuel consumption of your vessel at 17.5 knots?	232 bbls	252 bbls	294 bbls	343 bbls	
5	3299	C	You have steamed 174 miles and consumed 18 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 416 miles?	34.9 tons	38.4 tons	43.0 tons	46.2 tons	
5	3300	C	You have steamed 156 miles and consumed 19 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 273 miles?	23.6 tons	27.9 tons	33.3 tons	37.2 tons	
5	3301	B	You have steamed 217 miles and consumed 23.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 362 miles?	33.8 tons	38.4 tons	42.6 tons	45.7 tons	
5	3302	D	You have steamed 132 miles and consumed 14.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 289 miles?	21.6 tons	24.5 tons	27.9 tons	30.7 tons	
5	3303	C	You have steamed 174 miles and consumed 18.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 416 miles?	34.9 tons	38.4 tons	43.0 tons	46.2 tons	
5	3304	A	You have steamed 265 miles and consumed 25.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 346 miles?	32.6 tons	37.4 tons	42.6 tons	49.5 tons	
5	3305	B	You have steamed 201 miles and consumed 18.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 482 miles?	25.2 tons	43.2 tons	52.6 tons	103.5 tons	

5	3306	C	You have steamed 264 miles and consumed 22.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 521 miles?	31.7 tons	38.6 tons	43.4 tons	85.7 tons	
5	3307	B	You have steamed 182 miles and consumed 16.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 392 miles?	28.3 tons	34.5 tons	49.6 tons	74.2 tons	
5	3308	C	You have steamed 142 miles and consumed 21.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 465 miles?	43.4 tons	57.6 tons	68.8 tons	72.8 tons	
5	3309	B	You have steamed 142 miles and consumed 15.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 472 miles?	36.5 tons	49.9 tons	53.8 tons	61.4 tons	
5	3310	A	You have steamed 216 miles and consumed 19.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 315 miles?	27.7 tons	32.3 tons	36.9 tons	40.4 tons	
5	3311	A	You have steamed 162 miles and consumed 14.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 285 miles?	24.6 tons	34.7 tons	43.3 tons	54.8 tons	
5	3312	C	You have steamed 199 miles and consumed 23.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 410 miles?	32.6 tons	39.9 tons	47.4 tons	97.6 tons	
5	3313	A	You have steamed 300 miles and consumed 34 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 700 miles?	79.3 tons	74.3 tons	68.4 tons	66.2 tons	
5	3314	D	You have steamed 150 miles and consumed 17 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 350 miles?	12.82 tons	29.41 tons	34.00 tons	39.66 tons	
5	3317	C	Your vessel consumes 156 barrels of fuel per day at a speed of 13.0 knots. What will be the fuel consumption of your vessel at 16.0 knots?	192 bbls	236 bbls	291 bbls	315 bbls	

5	3318	C	While steaming at 12 knots, your vessel burns 45 tons of fuel per day. What will be the rate of fuel consumption if you decrease speed to 11.5 knots?	31 tons/day	36 tons/day	40 tons/day	43 tons/day	
5	3319	D	You are taking a time tick using the 2000 signal from Kekaha-Kauai, Hawaii (WWVH). You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 08h 00m 12s. When compared to the chronometer, the comparing watch reads 08h 01m 22s, and the chronometer reads 07h 59m 39s. What is the chronometer error?	0m 12s fast	1m 10s fast	0m 21s slow	1m 31s slow	
5	3451	B	You are underway and intend to make good a course of 040°T. You experience a current with a set and drift of 190°T at 1.4 knots, and a northwest wind produces a leeway of 3°. You adjust your course to compensate for the current and leeway, while maintaining an engine speed of 10 knots. What will be your speed made good over your intended course of 040°T?	7.8 knots	8.8 knots	9.8 knots	11.0 knots	
5	3452	C	You wish to make good a course of 035°T while turning for an engine speed of 12 knots. The set is 340°T, and the drift is 2 knots. What course should you steer?	027°T	037°T	044°T	054°T	
5	3453	B	You wish to make good a course of 350°T while turning for an engine speed of 10 knots. The set is 070°T, and the drift is 1.5 knots. What course should you steer?	332°T	341°T	345°T	359°T	
5	3454	C	You wish to make good a course of 300°T while turning for an engine speed of 11 knots. The set is 350°T, and the drift is 2.1 knots. Which course should you steer?	278°T	288°T	292°T	308°T	
5	3455	B	You wish to make good a course of 230°T while turning for an engine speed of 12.5 knots. The set is 180°T, and the drift is 1.7 knots. What course should you steer?	244°T	236°T	231°T	222°T	

5	3457	C	You wish to make good a course of 035°T while turning for an engine speed of 12 knots. The set is 340°T, and the drift is 2 knots. What speed will you make good along the track line?	12.2 knots	12.7 knots	13.0 knots	13.3 knots	
5	3460	C	You wish to make good a course of 230°T while turning for an engine speed of 12.5 knots. The set is 180°T, and the drift is 1.7 knots. What speed will you make good along the track line?	11.5 knots	12.5 knots	13.6 knots	14.0 knots	
5	3461	D	You wish to make good a course of 053°T while turning for an engine speed of 16 knots. The set is 345°T, and the drift is 2.4 knots. What speed will you make good along the track line?	14.1 knots	15.2 knots	16.1 knots	16.8 knots	
5	3462	C	You are underway on course 160°T at 10 knots. The current is 210°T at 0.9 knots. What is the course made good?	156°T	160°T	164°T	169°T	
5	3463	C	You are underway on course 215°T at 12 knots. The current is 000°T at 2.3 knots. What is the course made good?	209°T	217°T	222°T	232°T	
5	3464	B	You are underway on course 315°T at 14 knots. The current is 135°T at 1.9 knots. What is the course being made good?	130°T	315°T	317°T	322°T	
5	3465	A	You are underway on course 000°T at 9.5 knots. The current is 082°T at 1.1 knots. What is the course being made good?	007°T	009°T	021°T	353°T	
5	3467	A	You are underway on course 160°T at 10 knots. The current is 210°T at 0.9 knots. What is the speed being made good?	10.7 knots	11.0 knots	11.6 knots	12.3 knots	
5	3468	B	You are underway on course 215°T at 12 knots. The current is 000°T at 2.3 knots. What is the speed being made good?	8.5 knots	10.2 knots	10.9 knots	11.2 knots	
5	3469	A	You are underway on course 315°T at 14 knots. The current is 135°T at 1.9 knots. What is the speed being made good?	12.1 knots	13.5 knots	14.0 knots	15.9 knots	
5	3470	C	You are underway on course 000°T at 9.5 knots. The current is 082°T at 1.1 knots. What is the speed being made good?	9.2 knots	9.5 knots	9.8 knots	10.1 knots	
5	3471	A	You are underway on course 172°T at 18.5 knots. The current is 078°T at 2.8 knots. What is the speed being made good?	18.5 knots	19.0 knots	19.5 knots	20.0 knots	

5	3472	A	<p>You are taking a time tick using the 2000 signal from Kekaha-Kauai, Hawaii (WWVH). You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 08h 00m 49s. When compared to the chronometer, the comparing watch reads 08h 01m 33s, and the chronometer reads 08h 00m 56s. What is the chronometer error?</p>	0m 12s fast	0m 56s fast	0m 44s slow	1m 26s slow
5	3601	D	<p>You are steering 142°pgc to make good your desired course. The gyro error is 1°E . The variation is 8°W. What should you steer by standard magnetic compass to make good the desired course?</p> <p>DEVIATION TABLE MAGNETIC HEADING DEV. 120° 4°E 135° 2°E 150° 0°</p>	133°psc	146°psc	148°psc	151°psc
5	3602	A	<p>You are heading 328°pgc to make good a course of 332°T, allowing 3° leeway for westerly winds and 1°E gyro error. The variation is 17°E. What should your heading be by standard magnetic compass to make good 332°T.</p> <p>DEVIATION TABLE MAGNETIC HEADING DEV. 345° 1°E 330° 1°W 315° 3°W</p>	315°psc	318°psc	343°psc	345°psc
5	3603	D	<p>You are steering 318°psc. A northeasterly wind causes 3° of leeway. The variation is 14°E and the deviation table is extracted below. What will be the true course made good?</p> <p>DEVIATION TABLE MAG HDG DEV 300° 2°E 315° 0° 330° 2°W</p>	301°T	303°T	327°T	329°T

5	3604	C	<p>You wish to make good a course of 258°T, allowing 4° leeway for northerly winds. The variation is 21°W. What should you steer per standard magnetic compass to make good 258°T?</p> <p>DEVIATION TABLE</p> <table> <thead> <tr> <th>MAGNETIC HDG</th> <th>DEVIATION</th> </tr> </thead> <tbody> <tr> <td>285°</td> <td>5°E</td> </tr> <tr> <td>270°</td> <td>3°E</td> </tr> <tr> <td>255°</td> <td>1°E</td> </tr> <tr> <td>240°</td> <td>1°W</td> </tr> </tbody> </table>	MAGNETIC HDG	DEVIATION	285°	5°E	270°	3°E	255°	1°E	240°	1°W	242°psc	271°psc	278°psc	288°psc
MAGNETIC HDG	DEVIATION																
285°	5°E																
270°	3°E																
255°	1°E																
240°	1°W																
5	3605	B	<p>The true course from point A to point B is 317°. A SSW wind causes a 4° leeway, variation is 6°W and deviation is 1°E. What is the magnetic compass course to steer to make good the true course?</p>	326°psc	318°psc	313°psc	308°psc										
5	3606	A	<p>You are steering 154°pgc. The wind is southwest causing 4° leeway. The gyro error is 3°E, variation is 11°W and deviation is 7°E. What is the true course made good?</p>	153°T	158°T	161°T	164°T										
5	3607	D	<p>You desire to make good 152°T. The magnetic compass deviation is 4°E, the variation is 5°E, and the gyro error is 3°E. A southwesterly wind produces a 4° leeway. Which course would you steer per standard compass to make good the true course?</p>	137°psc	141°psc	143°psc	147°psc										
5	3608	A	<p>You are steering 125°pgc. The wind is southwest by south causing a 3° leeway. The variation is 6°E, the deviation is 2°W, and the gyro error is 1°W. What is the true course made good?</p>	121°T	123°T	127°T	129°T										
5	3609	A	<p>Enroute from Rio to Montevideo, the true course is 215°; the gyro error is 2° west. A north wind causes 3° leeway. What course would you steer per gyrocompass to make good the true course?</p>	220°pgc	214°pgc	216°pgc	210°pgc										
5	3610	A	<p>While enroute from Sydney to the Panama Canal a vessel's true course is 071°. Variation is 14°E. Deviation is 4°W. A northerly breeze causes 2° leeway. What course would you steer psc in order to make good the true course?</p>	059°psc	061°psc	063°psc	079°psc										

5	3611	D	The track line on the chart is 274°T. Variation is 4°E, and deviation is 2°E. The gyro error is 1.5°E. What course would be steered by gyrocompass to make good the desired course?	280.5°pgc	278.0°pgc	275.5°pgc	272.5°pgc
5	3612	D	Your vessel is steering 195° per standard magnetic compass. Variation for the area is 13°W, and the deviation is 4°E. The wind is from the west-southwest, producing a 2° leeway. Which true course are you making good?	178°T	180°T	182°T	184°T
5	3613	B	You are steering a magnetic compass course of 075°. The variation for the area is 10°W, and the compass deviation is 5°E. What is the true course you are steering?	060°T	070°T	080°T	090°T
5	3614	A	The true course between two points is 057°. Your gyrocompass has an error of 3° east and you make an allowance of 1° leeway for a north-northwest wind. Which gyro course should be steered to make the true course good?	053°pgc	056°pgc	059°pgc	060°pgc
5	3615	A	You want to make good a true course of 137°. A north-northeast wind produces a 3° leeway. The variation is 11° west, deviation is 5° east, and gyrocompass error is 2° east. What course must you steer per gyrocompass to make the true course good?	132°pgc	134°pgc	136°pgc	138°pgc
5	3616	A	You desire to make good a true course of 046°. The variation is 6°E, magnetic compass deviation is 12°W, and the gyrocompass error is 3°W. A northerly wind produces a 5° leeway. What is the course to steer per standard magnetic compass to make good the true course?	047°psc	049°psc	052°psc	057°psc
5	3617	A	Your vessel is steering course 299°psc, variation for the area is 7°W, and deviation is 4°W. The wind is from the southwest, producing a 3° leeway. What true course are you making good?	291°T	296°T	299°T	313°T
5	3618	B	Your vessel is steering course 027° per standard magnetic compass (psc), variation for the area is 19°W, and deviation is 2°E. The wind is from the north-northwest, producing a 5° leeway. What true course are you making good?	005°T	015°T	044°T	049°T

5	3619	D	Your vessel is steering course 149°psc, variation for the area is 13°E, and deviation is 4°E. The wind is from the northeast, producing a 4° leeway. What true course are you making good?	128°T	136°T	162°T	170°T
5	3620	C	Your vessel is steering course 197°psc, variation for the area is 7°E, and deviation is 4°W. The wind is from the west, producing a 2° leeway. Which true course are you making good?	192°T	196°T	198°T	202°T
5	3621	B	Your vessel is steering course 216° per standard magnetic compass, variation for the area is 9°W, and deviation is 2°E. The wind is from the east, producing a 5° leeway. What true course are you making good?	204°T	214°T	223°T	227°T
5	3622	C	Your vessel is steering a course of 337°psc. Variation for the area is 13°W, and deviation is 4°E. The wind is from the south, producing a 3° leeway. Which true course are you making good?	325°T	328°T	331°T	349°T
5	3623	A	Your vessel is steering course 166°psc, variation for the area is 8°W, and deviation is 3°W. The wind is from the west-southwest, producing a 2° leeway. What true course are you making good?	153°T	157°T	175°T	179°T
5	3624	C	Your vessel is steering course 073°psc, variation for the area is 15°E, and deviation is 4°E. The wind is from the southeast, producing a 4° leeway. Which true course are you making good?	050°T	058°T	088°T	096°T
5	3625	D	Your vessel is steering course 111°psc, variation for the area is 5°E, and deviation is 3°W. The wind is from the northwest, producing a 1° leeway. What true course are you making good?	108°T	110°T	112°T	114°T
5	3626	B	Your vessel is steering course 284°psc, variation for the area is 6°W, and deviation is 3°E. The wind is from the north-northeast, producing a 3° leeway. What true course are you making good?	275°T	278°T	284°T	290°T
5	3627	D	Your vessel is steering course 243°psc. Variation for the area is 5°E, and deviation is 2°W. The wind is from the south-southeast, producing a 2° leeway. What true course are you making good?	242°T	244°T	246°T	248°T

5	3628	C	Your vessel is steering course 352°psc, variation for the area is 11°E, and deviation is 9°W. The wind is from the northeast, producing a 1° leeway. What true course are you making good?	349°T	351°T	353°T	355°T
5	3629	A	You desire to make good a true course of 129°. The variation is 7°E, magnetic compass deviation is 4°E, and gyrocompass error is 2°W. An easterly wind produces a 4° leeway. What is the course to steer per standard magnetic compass to make the true course good?	114°psc	116°psc	122°psc	126°psc
5	3630	B	You desire to make good a true course of 203°. The variation is 19°E, magnetic compass deviation is 2°W, and gyrocompass error is 1°E. A westerly wind produces a 3° leeway. What is the course to steer per standard magnetic compass to make the true course good?	183°psc	189°psc	210°psc	223°psc
5	3631	C	You desire to make good a true course of 329°. The variation is 13° W, magnetic compass deviation is 4°E, and gyrocompass error is 2°W. A southerly wind produces a 1° leeway. What is the course to steer per standard magnetic compass to make the true course good?	319°psc	321°psc	337°psc	339°psc
5	3632	D	You desire to make good a true course of 157°. The variation is 15°E, magnetic compass deviation is 9°W, and gyrocompass error is 3°E. A southwesterly wind produces a 2° leeway. What is the course to steer per standard magnetic compass to make the true course good?	145°psc	147°psc	150°psc	153°psc
5	3633	C	You desire to make good a true course of 067°. The variation is 11°W, magnetic compass deviation is 3°E, and gyrocompass error is 1°W. A northwesterly wind produces a 5° leeway. What is the course to steer per standard magnetic compass to make the true course good?	054°psc	064°psc	070°psc	074°psc

5	3634	B	You desire to make good a true course of 038°. The variation is 5°E, magnetic compass deviation is 4°W, and gyrocompass error is 4°W. A southeasterly wind produces a 4° leeway. What is the course to steer per standard magnetic compass to make the true course good?	033°psc	041°psc	043°psc	047°psc
5	3635	A	You desire to make good a true course of 236°. The variation is 8°E, magnetic compass deviation is 1°E, and gyrocompass error is 3°W. A south-southeasterly wind produces a 1° leeway. What is the course to steer per standard magnetic compass (psc) to make the true course good?	226°psc	228°psc	244°psc	246°psc
5	3636	C	You desire to make good a true course of 279°. The variation is 8°W, magnetic compass deviation is 3°E, and gyrocompass error is 1°E. A north-northwesterly wind produces 3° leeway. What is the course to steer per standard magnetic compass (psc) to make the true course good?	281°psc	284°psc	287°psc	290°psc
5	3637	C	You desire to make good a true course of 347°. The variation is 11°E, magnetic compass deviation is 7°W, and gyrocompass error is 4°W. A north by east wind produces a 4° leeway. What is the course to steer per standard magnetic compass to make the true course good?	339°psc	343°psc	347°psc	351°psc
5	3638	A	You desire to make good a true course of 007°. The variation is 5°E, magnetic compass deviation is 3°W, and gyrocompass error is 2°E. A southwest by west wind produces a 2° leeway. What is the course to steer per standard magnetic compass to make the true course good?	003°psc	005°psc	007°psc	009°psc
5	3639	A	You desire to make good a true course of 132°. The variation is 10°W, magnetic compass deviation is 5°E, and gyrocompass error is 5°W. A northeast by east wind produces a 5° leeway. What is the course to steer per standard magnetic compass to make the true course good?	132°psc	135°psc	137°psc	142°psc

5	3640	B	You desire to make good a true course of 223°. The variation is 2°E, magnetic compass deviation is 2°E, and gyrocompass error is 1°W. An east-southeast wind produces 3° leeway. What is the course to steer per standard magnetic compass to make the true course good?	213°psc	216°psc	220°psc	223°psc
5	3641	C	You desire to make good a true course of 174°. The variation is 17°W, magnetic compass deviation is 4°W, and gyrocompass error is 4°E. A west-southwest wind produces a 4° leeway. What is the course to steer per standard magnetic compass to make the true course good?	195°psc	197°psc	199°psc	203°psc
5	3642	C	You are steering 154° per gyrocompass. The wind is northeast by east, causing 4° leeway. The gyro error is 3° east, variation is 11° west, and deviation is 7°E. What is the true course made good?	151°T	158°T	161°T	164°T
5	3643	B	While enroute from Montevideo to Walvis Bay a vessel's course is 116°psc. The variation for the locality is 25°W and the deviation is 6°W. What is the true course made good if a northerly wind produces 1° leeway?	084°T	086°T	148°T	085°T
5	3644	A	While enroute from Cape Town to Rio a vessel's course is 281°pgc. The variation for the locality is 24°W. The deviation is 4°E. The gyro error is 2°W. What is the true course made good?	279°T	261°T	301°T	283°T
5	3645	C	The true course between two points is 119°. Your gyrocompass has an error of 3°E. You allow of 4° leeway for a south-southwest wind. What gyro course should be steered to make the true course good?	112°pgc	118°pgc	120°pgc	126°pgc
5	3646	D	The true course between two points is 041°. Your gyrocompass has an error of 1°W. You make an allowance of 2° leeway for a east-southeast wind. What gyro course should be steered to make the true course good?	040°pgc	042°pgc	043°pgc	044°pgc

5	3647	A	The true course between two points is 220°. Your gyrocompass has an error of 1°E. You make an allowance of 1° leeway for a north-northwest wind. What gyro course should be steered to make the true course good?	220°pgc	221°pgc	222°pgc	223°pgc
5	3648	B	The true course between two points is 312°. Your gyrocompass has an error of 3°W. You make an allowance of 4° leeway for a west by south wind. What gyro course should be steered to make the true course good?	305°pgc	311°pgc	315°pgc	318°pgc
5	3649	A	The true course between two points is 078°. Your gyrocompass has an error of 2°E. You make an allowance of 3° leeway for a north wind. What gyro course should be steered to make the true course good?	073°pgc	075°pgc	077°pgc	079°pgc
5	3650	C	The true course between two points is 194°. Your gyrocompass has an error of 2°W and you make an allowance of 1° leeway for a southwest wind. What gyro course should you steer to make the true course good?	193°pgc	195°pgc	197°pgc	199°pgc
5	3651	A	The true course between two points is 337°. Your gyrocompass has an error of 3°E and you make an allowance of 5° leeway for a west wind. Which gyro course should be steered to make the true course good?	329°pgc	335°pgc	339°pgc	345°pgc
5	3652	D	The true course between two points is 023°T. Your gyrocompass has an error of 1°W and you make an allowance of 4° leeway for an east wind. What gyro course should be steered to make the true course good?	020°pgc	021°pgc	026°pgc	028°pgc
5	3653	C	The true course between two points is 106°. Your gyrocompass has an error of 2°E and you make an allowance of 2° leeway for a south wind. What gyro course should be steered to make the true course good?	102°pgc	104°pgc	106°pgc	108°pgc

5	3654	D	You are taking a time tick using the 2000 signal from Kekaha-Kauai, Hawaii (WWVH). You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 07h 59m 54s. When compared to the chronometer, the comparing watch reads 08h 00m 00s, and the chronometer reads 08h 00m 06s. What is the chronometer error?	0m 06s slow	0m 06s fast	0m 12s fast	No error	
5	3708	A	At what time would you listen to VHF Channel 22 (157.1 MHz) for information concerning the stage of the river between Memphis and Cairo?	1300	1435	1620	1815	
5	3751	A	While proceeding up a channel on course 010° per gyro compass, you notice a pair of range lights in alignment with the masts of your vessel when viewed forward. A check of the chart shows the range to be 009°T and the variation to be 15°W. If the ship's course is 026°psc, what is the deviation for the present heading?	2°W	2°E	1°W	1°E	
5	3752	A	While your vessel is proceeding down a channel you notice a range of lights in line with your vessel's mast. If your vessel is on course 001° per gyro compass and the charted value of the range of lights is 359°T, what is the gyro compass error?	2°W	2°E	1°E	1°W	
5	3753	C	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is 343°T, and the variation is 5° west. If the heading of your vessel at the time of the sighting is 344° per standard magnetic compass, what is the correct deviation?	1°E	1°W	4°E	4°W	
5	3754	D	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 014°T, and the variation is 11°E. If the heading of your vessel at the time of the sighting is 009° per standard magnetic compass, what is the correct deviation?	5°E	5°W	6°E	6°W	

5	3755	A	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 186°T, and the variation is 11°W. If the heading of your vessel at the time of the sighting is 193° per standard magnetic compass, what is the correct deviation?	4°E	4°W	7°E	7°W
5	3756	D	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is 093°T, and the variation is 6°E. If the heading of your vessel at the time of the sighting is 097° per standard magnetic compass, what is the correct deviation?	5°E	5°W	10°E	10°W
5	3757	B	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 311°T, and the variation is 8°E. If the heading of your vessel at the time of the sighting is 305° per standard magnetic compass, what is the correct deviation?	2°E	2°W	6°E	6°W
5	3758	C	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 212°T, and the variation is 7°W. If the heading of your vessel at the time of the sighting is 208° per standard magnetic compass, what is the correct deviation?	4°E	4°W	11°E	11°W
5	3759	D	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 147°T, and the variation is 5°E. If the heading of your vessel at the time of the sighting is 148° per standard magnetic compass, what is the correct deviation?	1°E	1°W	6°E	6°W

5	3760	A	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 352°T, and the variation is 4°W. If the heading of your vessel at the time of the sighting is 359° per standard magnetic compass, what is the correct deviation?	3°W	7°E	11°E	11°W	
5	3761	D	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is 283°T, and the variation is 13°E. If the heading of your vessel at the time of the sighting is 278° per standard magnetic compass, what is the deviation?	5°E	5°W	8°E	8°W	
5	3762	B	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 196°T, and the variation is 7°E. If the heading of your vessel at the time of the sighting is 192° per standard magnetic compass, what is the deviation?	3°E	3°W	4°E	4°W	
5	3763	C	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is 178°T, and the variation is 9°W. If the heading of your vessel at the time of the sighting is 180° per standard magnetic compass, what is the deviation?	2°E	2°W	7°E	7°W	
5	3764	D	Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 064°T, and the variation is 17°W. If the heading of your vessel at the time of the sighting is 094° per standard magnetic compass, what is the correct deviation?	4°E	4°W	13°E	13°W	

5	3765	C	Your vessel is proceeding up a channel steering on a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 249°T, and the variation is 14°E. If the heading of your vessel at the time of the sighting is 226° per standard magnetic compass, what is the correct deviation?	5°E	5°W	9°E	9°W
5	3766	A	Your vessel is proceeding down a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is 229°T, and variation is 6°W. If the heading of your vessel at the time of the sighting is 232° per standard magnetic compass, what is the deviation?	3°E	9°E	3°W	9°W
5	3767	C	You are on course 251°pgc and 241° per magnetic compass, when you observe a range in line bearing 192°pgc. The chart indicates that the range is in line on a bearing of 194°T. The variation is 16°E. What is the deviation of the magnetic compass?	2°E	2°W	4°W	10°W
5	3768	D	While entering a harbor on a course of 225° per gyrocompass, you take a bearing on a pair of range lights and get 220° per gyrocompass. The bearing on the chart is 217°T. The variation for the area is 6°W, and deviation is 2°W. What course would you steer per gyrocompass to make good a true course of 232°?	229°pgc	231°pgc	233°pgc	235°pgc
5	3769	B	Entering a harbor, you take a bearing on a range and get 338° per gyrocompass (pgc). The true bearing from the chart is 340°T. Variation for the area is 14°E. Your course is 329° per standard magnetic compass (psc) and 338°pgc. The deviation on this heading is _____.	3°E	3°W	5°E	5°W
5	3770	A	You wish to check the deviation of your standard magnetic compass. You find a natural range that you steer for and note that the gyrocompass heading is 034°, and the heading by standard magnetic compass is 026°. The gyro error is 1°W. Variation is 9°E. What is the deviation for that heading?	2°W	0°	2°E	9°E

5	3771	A	Two beacons form a range in the direction of 221.5°T. The range is seen in line from your vessel bearing 223° per gyro compass. The variation in the area is 4°E. What is the error of your gyro compass?	1.5°W	2.5°W	5.5°W	2.5°E	
5	3772	A	Your ship is entering port from sea, and you sight a pair of range lights. When in line, they bear 315° per standard magnetic compass. The chart shows that the range bearing is 312°T, and that variation is 6°W. What is the deviation of your compass at the time of the sighting?	3°E	3°W	9°E	9°W	
5	3773	A	Which numbered box indicates the ExxonMobil Refining & Supply Co. in Baton Rouge?	1	2	3	4	
5	4015	C	You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a true heading of 319°. <p>HEADING      HEADING      HEADING  PSC   PGC      PSC   PGC      PSC   PGC  358.5° - 354°    122.5° - 114°    239.5° - 234°  030.5° - 024°    152.0° - 144°    269.0° - 264°  061.5° - 054°    181.0° - 174°    298.0° - 294°  092.0° - 084°    210.0° - 204°    327.5° - 324°</p>	0.5°E	1.0°W	2.5°E	2.5°W	
5	4016	D	You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a magnetic compass heading of 004°. <p>HEADING      HEADING      HEADING  PSC   PGC      PSC   PGC      PSC   PGC  358.5° - 354°    122.5° - 114°    239.5° - 234°  030.5° - 024°    152.0° - 144°    269.0° - 264°  061.5° - 054°    181.0° - 174°    298.0° - 294°  092.0° - 084°    210.0° - 204°    327.5° - 324°</p>	1.5°W	0.5°W	0.0°	1.0°E	

5	4017	D	<p>You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°E. The variation is 8°W. Find the deviation on a gyro heading of 196°.</p> <table border="0"> <tr> <td>HEADING</td> <td>HEADING</td> <td>HEADING</td> </tr> <tr> <td>PSC PGC</td> <td>PSC PGC</td> <td>PSC PGC</td> </tr> <tr> <td>358.5° - 350°</td> <td>122.5° - 110°</td> <td>239.5° - 230°</td> </tr> <tr> <td>030.5° - 020°</td> <td>152.0° - 140°</td> <td>269.0° - 260°</td> </tr> <tr> <td>061.5° - 050°</td> <td>181.0° - 170°</td> <td>298.0° - 290°</td> </tr> <tr> <td>092.0° - 080°</td> <td>210.0° - 200°</td> <td>327.5° - 320°</td> </tr> </table>	HEADING	HEADING	HEADING	PSC PGC	PSC PGC	PSC PGC	358.5° - 350°	122.5° - 110°	239.5° - 230°	030.5° - 020°	152.0° - 140°	269.0° - 260°	061.5° - 050°	181.0° - 170°	298.0° - 290°	092.0° - 080°	210.0° - 200°	327.5° - 320°	2.0°E	2.0°W	1.0°W	0.0°
HEADING	HEADING	HEADING																							
PSC PGC	PSC PGC	PSC PGC																							
358.5° - 350°	122.5° - 110°	239.5° - 230°																							
030.5° - 020°	152.0° - 140°	269.0° - 260°																							
061.5° - 050°	181.0° - 170°	298.0° - 290°																							
092.0° - 080°	210.0° - 200°	327.5° - 320°																							
5	6143	A	At 2027 you obtain a radar range to Shagwong Point of 3.4 miles and a tangent bearing to the east end of Long Island of 172°T. Which statement is TRUE?	You are to the left of your DR track.	You are inside a precautionary area.	Your speed made good from 1949 to 2027 is 14.0 knots.	Your course made good from 1949 to 2027 is 111°T.																		
5	6144	A	What are the dimensions of the Old River Lock on the Lower Old River (mile 304 AHP)?	1190 X 75 feet	1185 X 84 feet	1190 X 84 feet	1185 X 75 feet																		
5	6446	B	You continue on course from your 1126 fix. At 1131 Cape Charles Light bears 322°T. At 1135 you change course to 000°T. At 1149 Cape Henry Light bears 247°T. Which statement concerning your 1149 running fix is TRUE?	Your fathometer reads 47 feet.	You are in a danger area.	Chesapeake Light is due south of you.	You are north of Smith Island Shoal.																		
5	6844	C	At 1010 your vessel passes close abeam to Buoy "NCB" in the inbound traffic lane. At this time the Chesapeake Bay Pilot informs you that he will not board your vessel until 1100. The pilot boat is located 1.5 miles northeast of Cape Henry Light. What should you reduce your speed to in order to arrive at the pilot boat at this time?	5.9 knots	7.5 knots	8.2 knots	9.8 knots																		
5	10100	A	Your loran shows a position of LAT 36°59.0'N, LONG 75°48.6'W. What is the course per standard magnetic compass to a position one mile south of Cape Charles Buoy "14" (which is positioned at LAT 37°07.4'N, LONG 75°41.0'W)?	045°psc	049°psc	053°psc	057°psc																		
5	10101	B	Your loran shows a position of LAT 36°59.0'N, LONG 75°48.6'W. What is the course per standard magnetic compass to a position one mile east of Cape Charles Buoy "14" (LAT 37°07.4'N, LONG 75°41.0'W)?	040°psc	045°psc	049°psc	053°psc																		

5	10102	D	Your loran shows a position of LAT 37°07.5'N, LONG 75°39.1'W. What is the course per standard magnetic compass (psc) to a position 0.3 mile due north of North Chesapeake Entrance Buoy NCA (LL #375)?	222°psc	228°psc	231°psc	234°psc
5	10103	A	Your loran shows a position of LAT 37°01.5'N, LONG 75°31.7'W. What is the course per standard magnetic compass to Chesapeake Light?	243°	240°	237°	231°
5	10104	D	Your loran shows a position of LAT 36°55.2'N, LONG 75°33.1'W. What is the course per standard magnetic compass to Rudee Inlet (LAT 36°49.8'N, LONG 75°58.0'W)?	246.0°psc	254.5°psc	261.0°psc	265.5°psc
5	10105	C	What is the course psc from Chesapeake Light to North Chesapeake Entrance Buoy NCA?	313°psc	317°psc	321°psc	325°psc
5	10106	B	What is the course per standard magnetic compass from Chesapeake Light to North Chesapeake Entrance Lighted Whistle Buoy NCA?	316°psc	321°psc	323°psc	326°psc
5	10107	D	What is the first course per standard magnetic compass (psc) in the outbound southeasterly traffic lane of the Chesapeake Bay entrance traffic separation scheme?	133°psc	138°psc	143°psc	148°psc
5	10108	D	What is the base course per standard magnetic compass while southbound in the middle leg of York Spit Channel?	161.0°psc	165.5°psc	180.0°psc	184.0°psc
5	10109	A	What is the base course (psc) in the inbound northeasterly traffic lane of the Chesapeake Bay entrance traffic separation scheme?	261°psc	258°psc	250°psc	244°psc
5	10200	C	Your loran shows a fix position of LAT 41°10.0'N, LONG 72°52.5'W. What is the course per standard magnetic compass to a position one mile due south of Falkner Island Light?	065°psc	081°psc	093°psc	097°psc
5	10201	B	Your present position is LAT 41°05.5'N, LONG 72°38.0'W. Assuming that there are no set and drift, what course must you steer per standard magnetic compass (psc) to arrive at a position 0.5 mile due south of New Haven Lighted whistle Buoy NH?	315.5°psc	310.5°psc	290.5°psc	284.5°psc

5	10202	C	Your present position is LAT 41°05.5'N, LONG 72°38.0'W. Assuming that there is no set and drift, what course must you steer per standard magnetic compass (psc) to arrive at a position midway between New Haven Harbor Channel buoys #1 and #2?	137°psc	309°psc	315°psc	319°psc	
5	10203	C	Your present position is LAT 41°05.5'N, LONG 72°38.0'W. Assuming there is no set and drift, what course must you steer per standard magnetic compass (psc) to arrive at a position 3 miles due north of Horton Point Light?	077°psc	081°psc	085°psc	088°psc	
5	10204	B	Your present position is LAT 41°05.5'N, LONG 72°38.0'W. Assuming that there is no set and drift, what course must you steer per standard magnetic compass (psc) to arrive at a position 5 miles due south of Saybrook Breakwater Light?	089°psc	080°psc	077°psc	066°psc	
5	10205	A	Your present position is LAT 41°05.5'N, LONG 72°38.0'W. Assuming that there is no set and drift, what course must you steer per standard magnetic compass (psc) to arrive at a position 2 miles due west of Twenty-Eight Foot Shoal Lighted Buoy (LAT 41°09.3'N, LONG 72°30.5'W)?	055°psc	059°psc	064°psc	069°psc	
5	10206	D	Your 2230 position is LAT 41°07.4'N, LONG 72°44.0'W. Assuming that there are no set and drift, what course must you steer per standard magnetic compass (psc) to leave Twenty-Eight Foot Shoal Lighted Buoy (LAT 41°09.3'N, LONG 72°30.4'W) 1 mile abeam to port?	084°psc	091°psc	094°psc	098°psc	
5	10207	A	Your 2230 position is LAT 41°07.4'N, LONG 72°44.0'W. Assuming that there is no set and drift, what course must you steer per standard magnetic compass to leave Twenty-Eight Foot Shoal Lighted Buoy 1 mile abeam to starboard?	086°psc	091°psc	094°psc	098°psc	
5	10208	D	A loran fix places your vessel at LAT 41°08.5'N, LONG 72°28.8'W. What course must you steer per standard magnetic compass (psc) to leave Cornfield Lighted Whistle Buoy "CF" 0.5 mile abeam to starboard?	032°psc	048°psc	055°psc	067°psc	

5	10209	B	A loran fix places your vessel at LAT 41°08.5'N, LONG 72°28.8'W. What course must you steer per standard magnetic compass (psc) to leave Cornfield Lighted Whistle Buoy "CF" 0.5 mile abeam to port?	064°psc	077°psc	088°psc	092°psc
5	10210	D	Your present position is LAT 41°07.4'N, LONG 72°44.0'W. Assuming that there is no set and drift, what course must you steer per standard magnetic compass (psc) to a position of LAT 41°08.5'N, LONG 72°28.8'W?	073°psc	084°psc	091°psc	097°psc
5	10300	D	Determine the course per standard magnetic compass from the entrance to Quonochontaug Pond (LAT 41°19.8'N, LONG 71°43.2'W) to the entrance to Great Salt Pond on Block Island.	129.5°psc	134.0°psc	156.0°psc	159.0°psc
5	10301	C	Determine the course per standard magnetic compass from Cerberus Shoal Buoy 9 (LAT 41°10.4'N, LONG 71°57.1'W) to the entrance to Quonochontaug Pond (LAT 41°19.8'N, LONG 71°43.2'W).	030°psc	036°psc	059°psc	067°psc
5	10302	A	Determine the course per standard magnetic compass from Cerberus Shoal Buoy 9 (LAT 41°10.4'N, LONG 71°57.1'W) to a position 0.2 mile south of Race Rock Light (LAT 41°14.6'N, LONG 72°02.8'W).	326.5°psc	324.0°psc	298.5°psc	296.0°psc
5	10303	D	Determine the course per standard magnetic compass from 0.2 mile south of Race Rock Light (LAT 41°14.6'N, LONG 72°02.8'W) to the entrance of the channel to Lake Montauk (west of Montauk Point).	137.0°psc	152.0°psc	165.5°psc	168.5°psc
5	10304	B	Determine the course per standard magnetic compass from the entrance to Ninigret Pond (LAT 41°21.3'N, LONG 71°38.3'W) to the entrance to Great Salt Pond on Block Island.	192.0°psc	184.0°psc	154.5°psc	152.5°psc
5	10305	C	You are 3 miles due east of Montauk Point Light. What is the course per standard magnetic compass to a position one mile due south of Block Island Southeast Point Light?	070.0°	076.5°	082.5°	087.5°
5	10306	B	You are 3 miles due east of Montauk Point Light. What is the course per standard magnetic compass to LAT 41°00.0'N, LONG 71°40.0'W?	145.5°psc	142.5°psc	138.5°psc	127.0°psc

5	10307	A	You are 3 miles due east of Montauk Point Light. What is the course per standard magnetic compass to a position 0.5 mile due south of Race Rock Light?	324°psc	328°psc	331°psc	339°psc
5	10308	D	You are 3 miles due east of Montauk Point Light. What is the course per standard magnetic compass to a position 1.5 miles due east of Watch Hill Point Light?	341°psc	337°psc	011°psc	007°psc
5	10309	B	You are 3 miles due east of Montauk Point Light. What is the course per standard magnetic compass to LAT 41°00.0'N, LONG 71°30.0'W?	108°psc	122°psc	124°psc	130°psc
5	10500	C	At 1712 your loran set indicates a position of LAT 36°54.8'N, LONG 75°39.8'W. You are on course 319° per standard magnetic compass at a speed of 9.9 knots. At 1800 your loran set indicates your position at LAT 37°00.0'N, LONG 75°45.8'W. What were the set and drift?	262°T at 0.9 knot	267°T at 1.3 knots	087°T at 1.2 knots	093°T at 0.8 knot
5	10501	B	At 0939 your loran set indicates a position of LAT 36°57.0'N, LONG 75°41.0'W. You are on course 119° per standard magnetic compass at a speed of 12.8 knots. At 1017 your loran set indicates your position as LAT 36°54.2'N, LONG 75°33.1'W. What were the set and drift?	280°T at 1.0 knot	275°T at 1.8 knots	091°T at 1.6 knots	103°T at 1.1 knots
5	10502	A	At 1239 your loran set indicates a position of LAT 36°55.2'N, LONG 75°33.1'W. You are on course 281° per standard magnetic compass at a speed of 9.2 knots. At 1318 your loran set indicates your position as LAT 36°54.8'N, LONG 75°39.8'W. What were the set and drift?	130°T at 1.2 knots	156°T at 0.6 knot	352°T at 1.3 knots	335°T at 1.0 knot
5	10503	C	At 0817 your loran set indicates a position of LAT 37°01.6'N, LONG 75°31.7'W. You are on course 182° per standard magnetic compass at a speed of 9.2 knots. At 0913 your loran set indicates your position at LAT 36°52.3'N, LONG 75°30.8'W. What were the set and drift?	121°T at 0.8 knot	139°T at 1.1 knots	219°T at 1.1 knots	298°T at 0.7 knot

5	10504	D	At 1354 your loran set indicates a position of LAT 37°00.0'N, LONG 75°45.8'W. You are on course 088° per standard magnetic compass at a speed of 9.5 knots. At 1500 your loran set indicates your position as LAT 37°01.6'N, LONG 75°31.7'W. What were the set and drift?	273°T at 0.8 knot	241°T at 1.1 knots	061°T at 1.3 knots	092°T at 0.9 knot	
5	10505	B	At 0919 your position is LAT 37°00.0'N, LONG 75°30.0'W. You are on course 270°T at 8.7 knots. At 1000 your position is LAT 36°59.5'N, LONG 75°37.0'W. What was the current?	137° at 0.6 knot	150° at 1.0 knot	331° at 0.7 knot	347° at 0.7 knot	
5	10506	B	At 0919 your position is LAT 37°00.0'N, LONG 75°30.0'W. You are on course 270°T at 8.7 knots. At 1031 your position is LAT 36°59.5'N, LONG 75°44.9'W. What was the set and drift?	239° at 0.8 knot	252° at 1.3 knots	060° at 0.7 knot	073° at 1.2 knots	
5	10507	D	At 0919 your position is LAT 37°00.0'N, LONG 75°30.0'W. You are on course 270°T at 10.5 knots. At 1020 your position is LAT 36°59.5'N, LONG 75°44.9'W. What was the current?	026° at 0.7 knot	046° at 1.0 knot	226° at 0.8 knot	246° at 1.4 knots	
5	10508	D	At 0919 your position is LAT 37°00.0'N, LONG 75°30.0'W. You are on course 270°T at 8.7 knots. At 1000 your position is LAT 37°00.5'N, LONG 75°37.0'W. What was the set and drift?	010° at 0.5 knot	017° at 1.0 knot	020° at 0.4 knot	032° at 0.9 knot	
5	10509	B	At 0919 your position is LAT 37°00.0'N, LONG 75°30.0'W. You are on course 270°T at 7.8 knots. At 1035 your position is LAT 37°00.5'N, LONG 75°43.8'W. What was the set and drift?	281° at 0.7 knot	292° at 1.0 knot	305° at 1.3 knots	113° at 1.2 knots	
5	10600	D	At 1620 your loran set indicates a position of LAT 41°09.0'N, LONG 72°40.0'W. You are on course 134° per standard magnetic compass at a speed of 10 knots. At 1700 your loran set indicates your position as LAT 41°05.3'N, LONG 72°33.7'W. What were the set and drift?	067°T at 1.7 knots	078°T at 1.1 knots	243°T at 1.0 knot	249°T at 1.6 knots	
5	10601	B	At 1645 your loran set fixes your position at LAT 41°09.2'N, LONG 72°36.9'W. You are steering course 262° per standard magnetic compass at a speed of 12 knots. At 1721 you fix your position by plotting several compass bearings on nearby known fixed objects. These result in a position of LAT 41°07.2'N, LONG 72°44.9'W. What were your set and drift?	040°T at 0.8 knot	030°T at 1.7 knots	225°T at 0.9 knot	242°T at 1.1 knots	

5	10602	D	At 1815 your loran set fixes your position at LAT 41°09.2'N, LONG 72°36.9'W. You are steering course 285° per standard magnetic compass at a speed of 16 knots. At 1909 you fix your position by plotting several compass bearings on nearby known fixed objects. These result in a position of LAT 41°08.5'N, LONG 72°53.7'W. What were your set and drift?	292°T at 1.8 knots	243°T at 1.0 knot	118°T at 1.9 knots	111°T at 2.1 knots
5	10603	C	At 1300 your loran set fixes your position at LAT 41°09.2' N, LONG 72°36.9'W. You are steering course 291° per standard magnetic compass at a speed of 8 knots. At 1345 you fix your position by plotting several compass bearings on nearby known fixed objects. These result in a position of LAT 41°09.9'N, LONG 72°46.1'W. Which statement is TRUE with respect to the combined effects of wind and current experienced since 1300?	There has been no set and drift.	Set and drift are westerly at approximately 0.9 knot.	Your speed over the bottom is approximately 9.2 knots.	Set and drift are easterly at approximately 1.0 knot.
5	10604	D	At 2245 your loran set fixes your position at LAT 41°01.75'N, LONG 72°48.40'W. You are steering course 086° per standard magnetic compass at a speed of 6.0 knots. At 2400 you fix your position by plotting several compass bearings on nearby known fixed objects. These result in a position of LAT 41°04.20'N, LONG 72°38.85'W. What were your set and drift?	162°T at .2 knot	180°T at .4 knot	339°T at .5 knot	007°T at .4 knot
5	10605	B	At 0620 your loran set fixes your position at LAT 41°01.8'N, LONG 72°48.40'W. You are steering course 274° per standard magnetic compass at a speed of 10 knots. At 0735 you fix your position by plotting several compass bearings on nearby known fixed objects. These result in a position of LAT 40°59.50'N, LONG 73°06.50'W. What were your set and drift?	304°T at 0.8 knot	276°T at 1.2 knots	099°T at 0.5 knot	094°T at 1.3 knots

5	10606	B	At 0915 your loran set indicates a position of LAT 41°04.9'N, LONG 72°42.1'W. You are on course 085° per standard magnetic compass at a speed of 6 knots. At 1030 your loran set fixes your position at 0.5 mile due south of Twenty-Eight Foot Shoal Lighted Buoy "TE". What were your set and drift?	042°T at 2.4 knots	045°T at 1.9 knots	221°T at 2.0 knots	225°T at 2.3 knots
5	10607	D	At 0912 your loran set indicates a position of LAT 41°04.9'N, LONG 72°42.1'W. You are on course 085° per standard magnetic compass at a speed of 6 knots. At 1052 your loran set fixes your position at 0.5 mile due south of Twenty-Eight Foot Shoal Lighted Buoy "TE". What were your set and drift?	145°T at 1.2 knots	148°T at 0.9 knot	320°T at 1.3 knots	325°T at 0.7 knot
5	10608	C	At 1825 your loran set indicates a position of LAT 41°04.9'N, LONG 72°42.1'W. You are on course 085° per standard magnetic compass at a speed of 10 knots. At 1910 your loran set fixes your position at 1 mile due south of Twenty-Eight Foot Shoal Lighted Buoy. What were your set and drift?	233°T at 2.9 knots	227°T at 2.5 knots	054°T at 2.8 knots	051°T at 2.1 knots
5	10609	A	At 1922 your loran set indicates a position of LAT 41°04.9'N, LONG 72°42.1'W. You are on course 085° per standard magnetic compass at a speed of 10 knots. At 2019 your loran set fixes your position at 1 mile due south of Twenty-Eight Foot Shoal Lighted Buoy "TE". What were your set and drift?	343°T at 0.7 knot	340°T at 1.2 knots	164°T at 0.9 knot	161°T at 1.1 knots
5	10610	B	At 1645 your loran set indicates a position of LAT 41°04.9' N, LONG 72°42.1'W. You are on course 072° per standard magnetic compass at a speed of 14 knots. At 1727 another loran fix places your vessel 1 mile due north of Twenty-Eight Foot Shoal Lighted Buoy TE. What were your set and drift?	032°T at 1.2 knot	026°T at 1.1 knot	207°T at 0.9 knot	212°T at 1.2 knots

5	10611	D	You are off the coast of Mexico and are taking a time tick for 1800. At approximately 1754, you hear the preparatory signal "VVVV de XDD" from the time signal station. Then you hear a series of 1 second dashes followed by a 9 second silent period and then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 06h 00m 07s. When compared to the chronometer, the comparing watch reads 06h 01m 24s, and the chronometer reads 05h 59m 23s. What is the chronometer error?	0m 07s fast	1m 17s fast	0m 37s slow	1m 54s slow
5	10612	C	You are taking a time tick using the 2000 signal from Kekaha-Kauai, Hawaii (WWVH). You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 08h 00m 08s. When compared to the chronometer, the comparing watch reads 08h 01m 15s, and the chronometer reads 07h 59m 55s. What is the chronometer error?	0m 08s fast	1m 07s fast	1m 12s slow	1m 28s slow
5	10700	B	At 1020 your position is LAT 41°11.0'N, LONG 71°50.0'W. You are on course 056° per standard magnetic compass at 9.2 knots. At 1112 your position is LAT 41°15.9'N, LONG 71°41.7'W. What were the set and drift?	130°T at 0.9 knot	141°T at 1.2 knots	331°T at 0.8 knot	346°T at 1.1 knots
5	10701	B	At 0947 your position is LAT 41°15.9'N, LONG 71°41.7'W. You are on course 182° per magnetic compass at 11.3 knots. At 1020 your position is LAT 41°09.2'N, LONG 71°40.6'W. What were the set and drift?	211°T at 1.0 knot	229°T at 2.0 knots	058°T at 1.8 knots	043°T at 1.1 knots
5	10702	A	At 1922 your position is LAT 41°09.2'N, LONG 71°40.6'W. You are on course 028° per standard magnetic compass at 6.4 knots. At 2046 your position is LAT 41°17.2'N, LONG 71°38.6'W. What were the set and drift?	235°T at 0.8 knot	247°T at 1.1 knots	049°T at 0.7 knot	062°T at 1.0 knots

5	10703	C	At 1516 your position is LAT 41°11.3'N, LONG 71°48.6'W. You are on course 300° per standard magnetic compass at 9.4 knots. At 1600 your position is LAT 41°14.0'N, LONG 71°58.1'W. What were the set and drift?	142°T at 1.9 knots	153°T at 1.4 knots	332°T at 1.5 knots	347°T at 1.1 knots	
5	10704	B	At 2038 your position is LAT 41°09.2'N, LONG 71°40.6'W. You are on course 301° per standard magnetic compass at 7.2 knots. At 2152 your position is LAT 41°11.3'N, LONG 71°48.6'W. What were the set and drift?	080°T at 1.0 knot	096°T at 2.0 knots	261°T at 1.2 knots	277°T at 0.9 knot	
5	10705	B	At 0726 you depart Lake Montauk with light 1 close aboard and set course 013.5° per standard magnetic compass at 7.6 knots. At 0812 your loran position is LAT 41°10.0'N, LONG 71°55.9'W. What is the current?	151°T at 1.0 knot	164°T at 0.7 knot	334°T at 1.1 knots	321°T at 0.8 knot	
5	10706	C	At 0726 you depart Lake Montauk with light 1 close aboard and set course 310.5° per standard magnetic compass at 7.6 knots. At 0812 your loran position is LAT 41°08.1'N, LONG 72°03.7'W. What is the current?	151°T at 1.0 knot	164°T at 0.7 knot	334°T at 1.4 knot	321°T at 0.8 knot	
5	10707	C	At 0726 you depart Lake Montauk with light 1 close aboard and set course 065° per standard magnetic compass at 6.7 knots. At 0912 your loran position is LAT 41°12.8'N, LONG 71°48.2'W. What is the current?	151°T at 1.0 knot	164°T at 0.7 knot	287°T at 2.0 knots	321°T at 0.8 knot	
5	10708	A	At 0726 you depart Lake Montauk with light 1 close aboard and set course 309° per standard magnetic compass at 6.7 knots. At 0818 your loran position is LAT 41°07.1'N, LONG 72°02.6'W. What is the current?	102°T at 0.6 knot	164°T at 0.7 knot	334°T at 0.9 knot	321°T at 0.6 knot	
5	10709	D	At 0726 you depart Lake Montauk with light 1 close aboard and set course 065° per standard magnetic compass at 6.7 knots. At 0912 your loran position is LAT 41°10.5'N, LONG 71°46.6'W. What is the current?	151°T at 1.2 knots	164°T at 0.7 knot	227°T at 0.9 knot	240°T at 1.4 knots	
5	10900	C	The abandoned lighthouse west of Cape Henry Light is _____.	painted black and white	a low mound of rubble	a gray, pyramidal structure	a steel skeleton structure	
5	10901	A	The area around Cape Charles is _____.	low and bare, but the land back of it is high and wooded	composed of low to medium rolling hills	well defined with rocky outcroppings	marked by high, barren hills	

5	10902	D	Fishermans Island (LAT 37°05.0'N, LONG 75°57.7'W) is _____.	privately owned	sparsely wooded and awash at spring tides	a high rocky promontory with marshy backwater	a National Wildlife Refuge	
5	10903	B	What is the distance from Norfolk to Philadelphia for a deep draft vessel via the Chesapeake Bay and C and D Canal ?	209 miles	245 miles	286 miles	302 miles	
5	10904	A	What is the distance from Chesapeake Bay entrance to Baltimore?	150 nm	162 nm	173 nm	247 nm	
5	10905	C	You wish to anchor and fish in the regulated navigation area in the vicinity of LAT 37°02'N, LONG 76°01'W. Which of the following statements is TRUE?	Anchoring is prohibited in this area due to the danger of unexploded mines on the bottom.	You may anchor in this area only in the event of an emergency such as loss of main propulsion.	You may anchor in this area if your vessel is less than 65 feet in length or if you have the Captain of the Port's permission.	Any vessel can anchor without restriction as the regulations only apply to vessels underway.	
5	10906	C	What correction should be applied to the charted depths of the Poquoson River at York Point at the PM low water on 18 December 1983?	+1.9 feet	-0.1 feet	-0.4 feet	No correction is necessary	
5	10907	B	What is the time (DST ZD +4) of the AM high tide at York Point, Poquoson River on 8 September 1983?	0955	1048	1055	1102	
5	10908	A	What is the velocity of the first maximum flood current in Lynnhaven Roads on 23 July 1983?	0.4 knot	0.5 knot	0.8 knot	1.3 knots	
5	10909	D	What will be the average direction of the current in Lynnhaven Roads at 1000 DST (ZD +4) on 23 July 1983?	305°T	125°T	070°T	Almost slack water	
5	11001	C	What time will high water occur at Saybrook Jetty on the morning of 29 October 1983?	0145	0255	0405	0920	
5	11002	D	What was the height of the high water at Saybrook Jetty on the afternoon of 18 February 1983?	1.4 ft.	2.0 ft.	2.4 ft.	2.9 ft.	
5	11003	B	What best describes the condition of the tidal current at New London Harbor Entrance, at 0945 on 3 March 1983?	It is slack water.	The current has reached its maximum flood velocity.	It has reached its maximum ebb velocity.	The current is approaching slack water.	
5	11005	D	What is the maximum speed permitted in the Main Entrance Channel to Port Jefferson Harbor?	3 mph	5 mph	7 mph	12 mph	
5	11006	C	At what time will the first maximum flood occur 1 mile east of Old Field Point on 29 April 1983? (You are keeping daylight saving time ZD +4).	0957	1059	1328	1423	

5	11007	B	What will be the height of the high water at Mount Sinai Harbor on the morning of 26 August 1983?	4.1 feet	6.3 feet	7.2 feet	8.4 feet	
5	11009	D	What best describes the structure from which Stratford Point Light is shown?	Brown conical tower with white horizontal band in center of light on black pier	Red conical tower on brown cylindrical pier	White octagonal house on brown cylindrical pier	White conical tower, with brown band midway of height	
5	11010	A	What is the maximum speed permitted in Clinton Harbor?	6 mph	8 mph	10 mph	12 mph	
5	11011	C	According to the U.S. Coast Pilot, what is the depth of the channel between State Pier No. 1 and the U.S. Navy Submarine Base in New London Harbor?	40 feet (12.1 meters)	38 feet (11.5 meters)	36 feet (10.9 meters)	34 feet (10.3 meters)	
5	11012	B	Which statement is FALSE with regard to Plum Island Harbor West Dolphin Light?	The light is maintained from sundown to 0130 daily.	The light is white.	The light is maintained by the U.S. Dept. of Agriculture.	The light is located on a dolphin.	
5	11013	B	What will be the height of the tide at Horton Pt., New York, on 16 June 1983, at 1845 DST (ZD +4)	0.2 foot	2.7 feet	4.1 feet	5.5 feet	
5	11014	C	What will be the velocity of the tidal current outside the breakwater at New Haven Hbr. entrance on 26 May 1983 at 1045 DST (ZD +4)?	0.0 knot	0.3 knot	0.5 knot	1.3 knots	
5	11100	C	Block Island is _____.	surrounded by wide sandy beaches	a low, marshy island	hilly with elevations to 200 feet (60.5 m)	a national bird sanctuary	
5	11101	A	Great Salt Pond on Block Island is _____.	entered through a dredged cut	not accessible in easterly gales	available for vessels up to a maximum draft of 8 feet (2.4m)	not affected by the tide	
5	11102	D	What is the velocity of the first PM (Daylight Savings Time) maximum ebb current at Plum Gut on 10 August 1983?	3.3 knots	4.0 knots	4.5 knots	5.4 knots	
5	11103	D	Point Judith Harbor of Refuge (LAT 41°22'N, LONG 71°30'W) _____.	is used only by tows	has moorings for small craft along the breakwater	is easily entered in all sea conditions	is entered through either the East Gap or the West Gap	
5	11104	D	What is the time of the first PM (Daylight Savings Time) maximum ebb current at Plum Gut on 10 August 1983?	1231	1249	1340	1445	
5	11105	D	What is the height of the tide at Great Salt Pond on Block Island at the afternoon high water (daylight savings time) on 1 July 1983?	3.9 feet	3.0 feet	2.4 feet	2.1 feet	

5	11106	B	What is the height of the tide at Great Salt Pond, on Block Island, at the morning high water (daylight savings time) on 1 July 1983?	1.3 feet	2.3 feet	3.2 feet	There is no morning high water
5	11107	A	What is the time (Daylight Savings Time) of the first high tide on 1 July 1983 at Great Salt Pond on Block Island?	0027	0448	1158	1203
5	11108	C	The passage between Great Gull Island and Plum Island _____.	is subject to weak and variable tidal currents	uncovers at extreme low water	should be avoided	shows a whirlpool at maximum ebb current when accompanied by NW gales
5	11109	A	What is the velocity of the maximum ebb current approximately 1.1 miles ENE of Little Gull Island in the afternoon of 25 April 1983?	5.5 knots	4.7 knots	4.2 knots	1.3 knots
5	11300	C	At 1256 your loran shows your position as LAT 36°57.0'N, LONG 75°41.0'W. At 1336 it shows your position as LAT 37°07.5'N, LONG 75°39.1'W. What was the speed made good between the fixes?	14.6 knots	15.2 knots	16.0 knots	18.6 knots
5	11301	D	At 1256 your loran shows your position as LAT 36°57.0'N, LONG 75°41.0'W. At 1331 it shows your position at LAT 37°07.5'N, LONG 75°39.1'W. What was the speed made good between the fixes?	14.6 knots	15.2 knots	16.6 knots	18.3 knots
5	11302	A	At 1614 your loran shows your position as LAT 37°01.6'N, LONG 75°31.7'W. At 1703 it shows your position as LAT 36°57.0'N, LONG 75°41.0'W. What was the course made good between the fixes?	238°T	242°T	247°T	250°T
5	11303	D	At 0856 your loran shows your position as LAT 37°01.6'N, LONG 75°31.7'W. At 0945 it shows your position as LAT 36°57.0'N, LONG 75°41.0'W. What was the speed made good between the fixes?	8.4 knots	8.9 knots	9.6 knots	10.7 knots
5	11304	B	At 1422 your loran shows your position as LAT 37°07.5'N, LONG 75°39.1'W. At 1549 it shows your position as LAT 36°57.0'N, LONG 75°41.0'W. What was the course made good between the fixes?	185°T	188°T	194°T	198°T

5	11305	C	At 1919 your position is LAT 37°00.0'N, LONG 75°30.0'W. At 2000 your position is LAT 36°59.5'N, LONG 75°37.0'W. What was the speed made good?	5.6 knots	6.6 knots	8.2 knots	9.1 knots
5	11306	D	At 1919 your position is LAT 37°00.0'N, LONG 75°30.0'W. At 1950 your position is LAT 36°59.5'N, LONG 75°37.0'W. What is the speed made good?	5.6 knots	8.2 knots	9.1 knots	10.9 knots
5	11307	C	At 1919 your position is LAT 37°00.0'N, LONG 75°30.0'W. At 2031 your position is LAT 36°59.5'N, LONG 75°44.9'W. What was the speed made good?	8.2 knots	9.3 knots	10.0 knots	10.9 knots
5	11308	A	At 1919 your position is LAT 37°00.0'N, LONG 75°30.0'W. At 2011 your position is LAT 36°59.5'N, LONG 75°44.9'W. What was the speed made good?	13.7 knots	12.0 knots	11.6 knots	10.9 knots
5	11309	B	At 1919 your position is LAT 37°00.5'N, LONG 75°43.8'W. At 2019 your position is LAT 37°00.0'N, LONG 75°30.0'W. What is the course made good?	090°T	093°T	096°T	099°T
5	11400	C	At 1035 your loran indicates a position of LAT 41°05.3'N, LONG 72°33.7'W. At 1103 your loran indicates a position of LAT 41°09.0'N, LONG 72°40.0'W. What was your speed made good?	6.1 knots	9.5 knots	13.0 knots	14.8 knots
5	11401	C	At 1520 your loran indicates a position of LAT 41°13.1'N, LONG 72°16.1'W. At 1630 another loran fix places your vessel at LAT 41°17.5'N, LONG 72°04.7'W. What were your true course and speed made good?	344° at 8.2 knots	077° at 9.5 knots	063° at 8.3 knots	059° at 8.1 knots
5	11402	A	At 1018 your loran indicates a position of LAT 41°14.4'N, LONG 72°07.2'W. At 1036 another loran fix places your vessel at LAT 41°13.1'N, LONG 72°16.1'W. What was your true course and speed made good?	259° at 22.6 knots	245° at 23.1 knots	079° at 22.8 knots	065° at 25.5 knots
5	11403	C	At 2115 your loran indicates a position of LAT 41°14.4'N, LONG 72°07.2'W. At 0015 another loran fix places your vessel at LAT 41°03.3'N, LONG 72°37.9'W. What was your true course made good?	062°T	076°T	245°T	259°T

5	11404	C	At 2115 your loran indicates a position of LAT 41°03.3'N, LONG 72°37.9'W. At 0027 another loran fix places your vessel at LAT 41°14.4'N, LONG 72°07.2'W. What was your speed made good?	7.0 knots	7.5 knots	8.0 knots	8.5 knots	
5	11405	A	At 2125 your loran indicates a position of LAT 41°05.7'N, LONG 72°46.5'W. At 2208 another loran fix places your vessel at LAT 41°03.3'N, LONG 72°37.9'W. What was your course made good by standard magnetic compass?	123°psc	287°psc	303°psc	326°psc	
5	11406	A	At 2021 a loran fix places your vessel at LAT 41°09.7'N, LONG 72°59.8'W. At 2057 another loran fix places your vessel at LAT 41°00.5'N, LONG 72°49.5'W. What are your true course and speed made good?	140° at 20 knots	145° at 18 knots	316° at 19 knots	320° at 17 knots	
5	11407	C	At 1930 a loran fix places your vessel at LAT 41°00.5'N, LONG 72°49.5'W. At 2018 a loran fix places your vessel at LAT 41°08.6'N, LONG 72°41.6'W. What was your true course and speed made good?	219° at 10.1 knots	214° at 12.5 knots	036° at 12.6 knots	039° at 11.2 knots	
5	11408	B	At 1930 a loran fix places your vessel at LAT 41°08.6'N, LONG 72°41.6'W. At 2024 another loran fix places your vessel at LAT 41°00.5'N, LONG 72°49.5'W. What is your true course and speed made good?	219° at 10.1 knots	216° at 11.2 knots	039° at 9.9 knots	036° at 11.1 knots	
5	11409	B	At 0647 a loran fix places your vessel at LAT 41°08.6'N, LONG 72°41.6'W. At 0729 another loran fix places your vessel at LAT 41°10.3'N, LONG 72°29.2'W. What were your true course and speed made good?	074° at 9.5 knots	080° at 13.6 knots	253° at 9.7 knots	258° at 13.5 knots	
5	11410	C	At 0647 a loran fix places your vessel 1 mile due south of buoy "8C" (buoy position LAT 41°10.8'N, LONG 72°29.4'W). At 0753 another loran fix places your vessel at LAT 41°08.6'N, LONG 72°41.6'W. What were your true course and speed made good?	088° at 9.6 knots	192° at 8.8 knots	263° at 8.5 knots	268° at 9.1 knots	
5	11500	C	At 2016 your loran position is LAT 41°07.6'N, LONG 71°37.8'W. At 2128 your position is LAT 41°00.4'N, LONG 71°29.4'W. What was the speed made good between the two positions?	11.9 knots	10.2 knots	8.0 knots	7.4 knots	

5	11501	D	At 2016 your loran position is LAT 41°07.6'N, LONG 71°33.8'W. At 2128 your position is LAT 41°00.4'N, LONG 71°29.4'W. What was the speed made good between the two positions?	11.9 knots	10.2 knots	8.9 knots	6.7 knots	
5	11502	C	At 1016 your loran position is LAT 41°07.6'N, LONG 71°38.5'W. At 1104 your position is LAT 41°00.4'N, LONG 71°29.4'W. What was the speed made good between the two positions?	10.9 knots	11.7 knots	12.5 knots	13.6 knots	
5	11503	B	At 1016 your loran position is LAT 41°07.6'N, LONG 71°37.9'W. At 1104 your position is LAT 41°00.2'N, LONG 71°29.4'W. What was the true course made good between the two positions?	134°T	139°T	143°T	145°T	
5	11504	A	At 1016 your loran position is LAT 41°07.6'N, LONG 71°38.5'W. At 1116 your position is LAT 41°01.4'N, LONG 71°29.4'W. What was the course made good between the two positions?	132°T	135°T	140°T	143°T	
5	11505	C	At 1014 you depart the entrance to Lake Montauk with light "1" close aboard. Your course is 066° per standard magnetic compass, and the speed is 8.6 knots. At 1230 your position is LAT 41°20.0'N, LONG 71°40.0'W. What is the speed made good?	8.0 knots	8.3 knots	8.6 knots	8.9 knots	
5	11506	A	At 1014 you depart the entrance to Lake Montauk with Light "1" close aboard. Your course is 066° per standard magnetic compass, and the speed is 8.6 knots. At 1238 your position is LAT 41°20.0'N, LONG 71°40.0'W. What is the speed made good?	8.2 knots	8.6 knots	8.9 knots	9.2 knots	
5	11507	C	At 1014 you depart the entrance to Lake Montauk with light "1" close aboard. Your course is 066° per standard magnetic compass, and the speed is 8.6 knots. At 1222 your position is LAT 41°20.0'N, LONG 71°40.0'W. What is the speed made good?	8.4 knots	8.6 knots	9.2 knots	9.6 knots	
5	11508	B	At 1014 you depart the entrance to Lake Montauk with light "1" close aboard. Your course is 066° per standard magnetic compass, and the speed is 8.6 knots. At 1232 your position is LAT 41°20.0'N, LONG 71°40.0'W. What is the speed made good?	8.2 knots	8.5 knots	8.9 knots	9.2 knots	

5	11509	B	At 1014 you depart the entrance to Lake Montauk with light "1" close aboard. Your course is 066° per standard magnetic compass, and the speed is 8.6 knots. At 1232 your position is LAT 41°20.0'N, LONG 71°40.0'W. What is the course made good?	036°T	040°T	044°T	047°T	
5	11700	A	What is the true heading to steer outbound in Thimble Shoal Channel if your engines are turning for 8.0 knots, the current is 050°T at 1.0 knot and a northerly wind causes 3° of leeway?	111°T	104°T	101°T	098°T	
5	11701	D	What is the true heading to steer inbound in the York River Entrance Channel if your engines are turning for 9.5 knots, the current is 076°T at 1.2 knots, and a southwesterly wind causes 3° of leeway?	313°T	308°T	303°T	300°T	
5	11702	A	You are eastbound in the Thimble Shoal Channel. What is the true heading to steer if the engines are turning for 9.5 knots, the current is 110°T at 1.2 knots, and a southerly wind causes 3° of leeway?	111°	108°	105°	100°	
5	11703	A	What is the true heading to steer inbound in York River Entrance Channel if your engines are turning for 9.8 knots, the current is 220°T at 1.2 knots, and a northeasterly wind causes 3° of leeway?	319°T	315°T	301°T	298°T	
5	11704	B	What is the true heading to steer in York River Entrance Channel if your engines are turning for 10.2 knots, the current is 220°T at 1.2 knots and a southwesterly wind causes 3° of leeway?	316°T	313°T	309°T	300°T	
5	11705	C	Your position is LAT 37°00.0'N, LONG 75°30.0'W. What is the course to steer per standard magnetic compass to arrive at LAT 36°59.0'N, LONG 75°48.5'W, if the current is 043°T at 1.3 knots, a south-southeasterly wind is causing 3° of leeway, and you are turning for 8.7 knots?	260.5°psc	264.0°psc	268.0°psc	271.5°psc	

5	11706	D	Your position is LAT 37°00.0'N, LONG 75°30.0'W. What is the course to steer per standard magnetic compass to arrive at LAT 36°59.0'N, LONG 75°48.5'W, if you are turning for 8.7 knots, the current is 039°T at 1.3 knots, and a northwesterly wind is causing 3° of leeway?	264.0°	267.5°	270.0°	273.0°
5	11707	B	Your position is LAT 37°00.0'N, LONG 75°30.0'W. What is the course to steer per standard magnetic compass to arrive at LAT 36°59.0'N, LONG 75°48.5'W, if you are turning for 7.8 knots, the current is 139°T at 1.3 knots, and a northwesterly wind is causing 3° of leeway?	290.0°psc	286.0°psc	283.5°psc	280.5°psc
5	11708	A	Your position is LAT 37°00.9'N, LONG 75°30.0'W. What is the course to steer per magnetic compass to arrive at LAT 36°59.0'N, LONG 75°48.5'W, if you are turning for 7.8 knots the current is 339°T at 1.3 knots, and a northwesterly wind is causing 3° of leeway?	265°psc	267°psc	269°psc	271°psc
5	11709	C	Your position is LAT 37°00.0'N, LONG 75°30.0'W. What is the course to steer per standard magnetic compass to arrive at LAT 36°59.0'N, LONG 75°48.5'W, if you are making 7.8 knots, the current is 239°T at 1.3 knots, and a southeasterly wind is causing 3° of leeway?	271°psc	274°psc	278°psc	282°psc
5	11800	A	What is the course to steer between Port Jefferson Approach buoy "PJ" and New Haven Lighted Buoy "NH"? Your engine speed is 12 knots and you allow for a current of 93°T at 0.8 knot. A NW'ly wind causes 3° leeway.	030°T	034°T	037°T	044°T
5	11801	A	What course should you steer by standard magnetic compass (psc) between Horton Pt. Light and Falkner Island Light, if the set and drift of the current are 040°T at 0.9 knot, and a westerly wind will cause 2° of leeway? Your engines are making turns for 10 knots.	314.0°psc	319.0°psc	324.5°psc	328.5°psc

5	11802	B	What course should you steer by your standard magnetic compass (psc), between New Haven Light and Stratford Pt. Light, if the set and drift of the current are 345°T at 3.0 knots, and a northerly wind will cause 1° of leeway? Your engines are making turns for 18.0 knots.	245.0°psc	247.0°psc	264.0°psc	266.5°psc
5	11803	C	What is the true course to steer between Falkner Island Light and Horton Point Light, if the set and drift of the current are 041° at 2.4 knots, and a northeasterly wind will cause 4° of leeway? Your engines are making turns for 15 knots.	116°T	124°T	134°T	142°T
5	11804	A	Your engines are making turns for 8 knots and a northerly wind is causing 3° of leeway. There is a current of 220°T at 1.5 knots. What is the course to steer between Branford Reef Light and Faulkner Island Light?	084°T	095°T	102°T	108°T
5	11805	B	What is the true course to steer between Stratford Shoal (Middle Ground Light) and New Haven Light, if the set and drift of the current are 048°T at 2 knots, and a southeasterly wind will cause 2° of leeway? Your engines are making turns for 10 knots.	032°T	037°T	039°T	041°T
5	11806	D	What course should you steer by standard magnetic compass between Mattituck Inlet and Branford Reef Light, if the set and drift of the current are 027° at 2.5 knots, and a northeasterly wind will cause 1° of leeway? Your engines are turning for 12 knots.	295°psc	305°psc	317°psc	320°psc
5	11807	B	What course should you steer by your standard magnetic compass (psc) between Horton Pt. Light and a position 2 miles due south of Branford Reef Light, if the set and drift of the current are 111°T at 2.5 knots, and a southwesterly wind will cause 4° of leeway? (Your engines are turning for 18 knots.)	306°psc	301°psc	295°psc	275°psc

5	11808	A	What is the true course to steer from a position 2 miles due south of Branford Reef Light to Horton Pt. Light, if the set and drift of the current are 247°T at 3 knots, and a southwesterly wind will cause 3° of leeway? (Your engines are making turns for 10 knots.)	104°T	100°T	095°T	087°T
5	11809	C	What course should you steer by your standard magnetic compass (psc) from a position 2 miles due south of Branford Reef Light to Horton Pt. Light, if the set and drift of the current are 065°T at 2 knots, and a northerly wind will cause 2° of leeway. Your engines are turning for 14 knots.	113°psc	118°psc	128°psc	134°psc
5	11811	C	What is the true course to steer between Horton Pt. Light and a position 2 miles due south of Branford Reef Light, if the set and drift of the current are 40°T at 1.5 knots, and an easterly wind will cause 3° of leeway? Your engines are making turns for 12 knots.	277°T	283°T	287°T	291°T
5	11900	D	What is the true course to steer between the entrance to Great Salt Pond (LAT 41°12.0'N, LONG 71°35.6'W) and the entrance to Quonochontaug Pond (LAT 41°19.8'N, LONG 71°43.2'W), if you are turning for 8.5 knots, and you allow for a current of 247°T at 1.2 knots, and an easterly wind is causing 2° of leeway?	314°T	320°T	328°T	333°T
5	11901	B	You are turning for 7.5 knots and a westerly wind is causing 2° of leeway. There is a current of 047°T at 1.2 knots. What course should you steer between the entrance to Quonochontaug Pond (LAT 41°19.8'N, LONG 71°43.2'W) and the entrance to Great Salt Pond (LAT 41°12.0'N, LONG 71°35.6'W).	156°T	155°T	144°T	140°T
5	11902	A	What is the true course to steer between the entrance to Lake Montauk (LAT 41°04.8'N, LONG 71°56.3'W) and Winnapaug Pond entrance) LAT 41°19.6'N, LONG 71°45.8'W), if you are turning for 9.5 knots, allow for a current of 075°T at 1.2 knots, and a westerly wind is causing 3° of leeway?	021°T	024°T	027°T	029°T

5	11903	C	What is the true course to steer between the entrance to Winnapaug Pond (LAT 41°19.6'N, LONG 71°45.8'W) and the entrance to Lake Montauk (LAT 41°04.8'N, LONG 71°56.3'W), if you are turning for 8.5 knots, allowing for a current of 095°T at 0.9 knot, and an easterly wind is causing 3° of leeway?	200°T	208°T	211°T	214°T
5	11904	A	What is the true course to steer between the entrance to Winnapaug Pond (LAT 41°19.6'N, LONG 71°45.8'W) and the entrance to Lake Montauk (LAT 41°04.8'N, LONG 71°56.3'W), if you are turning for 6.5 knots, allow for a current of 295°T at 0.9 knot, and an easterly wind is causing 4° of leeway?	196°T	200°T	213°T	217°T
5	11905	A	Your position is 3 miles due east of Montauk Point Light. What is the course to steer to arrive one mile due south of Block Island Southeast Point Light, if you are turning for 8.6 knots, the current is 130° at 1.2 knots, and a northerly wind causes 3° of leeway?	061°T	064°T	067°T	070°T
5	11906	D	Your position is 3 miles due east of Montauk Point Light. What is the course to steer to arrive at LAT 41°00.0'N, LONG 71°30.0'W, if you are turning for 8.7 knots, the current is 130° at 1.2 knots, and a northerly wind causes 3° of leeway?	112°T	108°T	105°T	102°T
5	11907	B	Your position is 3 miles due east of Montauk Point Light. What is the course to steer to arrive at LAT 41°00.0'N, LONG 71°30.0'W, if you are turning for 7.8 knots, the current is 130° at 1.2 knots, and a southerly wind causes 3° of leeway?	112°T	108°T	105°T	102°T
5	11908	A	Your position is 3 miles due east of Montauk Point Light. What is the course to steer to arrive at LAT 41°00.0'N, LONG 71°30.0'W, if you are turning for 7.8 knots, the current is 330° at 1.2 knots, and a southerly wind causes 3° of leeway?	117°T	112°T	104°T	102°T

5	11909	B	Your position is 3 miles due east of Montauk Point Light. What is the true course to steer to arrive one mile due south of Block Island Southeast Point Light, if you are turning for 6.8 knots, the current is 330° at 1.2 knots, and a southerly wind causes 3° of leeway?	081°T	084°T	087°T	090°T	
5	12100	A	You sight Wolf Trap Light in line with New Point Comfort Spit Light "2" bearing 040° per standard magnetic compass. You are on course 319° per standard magnetic compass. Based on this, you _____.	know the compass error is 8°W	should apply 3°Easterly deviation to the bearing	know the deviation table is incorrect	should suspect the compass may be affected by a local magnetic disturbance	
5	12101	A	You sight Thimble Shoal Light in line with Old Point Comfort Light bearing 267° per standard magnetic compass. You are on course 182°psc. Based on this, you know _____.	the existing deviation is correct for that heading	you should adjust your compass	the compass error is 2°W	the variation is 11°W	
5	12102	D	You sight Thimble Shoal Light in line with Old Point Comfort Light bearing 265° per standard magnetic compass. You are on course 135°psc. Based on this, you know _____.	there is no compass error	there is a local magnetic disturbance	you should swing your vessel and check the deviation table	the deviation is 0°	
5	12103	C	You sight Wolf Trap Light in line with New Point Comfort Spit Light "2" bearing 048° per standard magnetic compass. You are on course 203°psc. Based on this, you know _____.	the compass error is 12°W	the deviation is 9°W	that the deviation table is in error	the deviation is 3°E for bearings of 048° per standard magnetic compass	
5	12104	B	You sight Wolf Trap Light in line with New Point Comfort Spit Light "2" bearing 234° per standard magnetic compass. You are on course 329°psc. Based on this, you _____.	know the compass error is 8°W	should swing the vessel to check the deviation table	know the deviation is 1°W	know the deviation table is accurate for that bearing	
5	12105	A	While in the Back River, you sight the two tanks along the Northwest Branch (vicinity LAT 37°05.6'N, LONG 76°22.0'W) in line bearing 274°psc. If your vessel is heading 300°psc, what is TRUE?	There is no deviation.	The deviation is equal to the variation.	The deviation is 9°E.	The deviation is 0° only for a bearing of 274°psc.	
5	12106	C	While in the Back River, you sight the two tanks along the Northwest Branch (vicinity LAT 37°05.6'N, LONG 76°22.0'W) in line bearing 277° per standard magnetic compass. If your vessel is heading 243°psc, what is TRUE?	There is no deviation.	The deviation table is incorrect.	The compass error is 12°W.	The deviation is 3°E for bearings of 277°psc.	

5	12107	B	You sight Tue Marshes Light (LAT 37°14.1'N, LONG 76°23.2'W) in line with Goodwin Thorofare Light "16" (LAT 37°13.7'N, LONG 76°25.0'W) bearing 267° per standard magnetic compass. What is TRUE if your vessel's heading is 056°psc?	The compass error is 13°E.	The deviation table is in error and should be corrected.	The deviation is 4°E.	The deviation table is correct for a heading of 056°psc.
5	12108	D	You sight Tue Marshes Light (LAT 37°14.1'N, LONG 76°23.2'W) in line with Goodwin Thorofare Light "16" (LAT 37°13.7'N, LONG 76°25.0'W) bearing 262° per standard magnetic compass. What is TRUE if your vessel's heading is 119°psc?	The compass error is 10°W.	The deviation table must be corrected for the change in date.	The deviation is 1°W.	The deviation table is correct for a heading of 119°psc.
5	12109	A	You sight Tue Marshes Light (LAT 37°14.1'N, LONG 76°23.2'W) in line with Goodwin Thorofare Light "16" (LAT 37°13.7'N, LONG 76°25.0'W) dead ahead bearing 264° per standard magnetic compass. Which statement is TRUE?	The compass error is 11°W.	The deviation table must be corrected for the change in date.	The deviation is 1°W for a bearing of 264° only.	The variation is 9°W for a bearing of 264° only.
5	12200	B	You are on course 119°psc. You sight New Haven Outer Channel Range Rear Light in line with the Outer Channel Range Front Light bearing 346° per standard magnetic compass. This indicates that _____.	you should swing the vessel to determine the deviation	the existing deviation table is correct for that heading	your compass is affected by a local magnetic disturbance	the compass error is 16°W
5	12201	C	Your vessel is steady on a heading of 203° per standard magnetic compass when you sight New Haven Light and New Haven Outer Channel Range Front Light in line over the stern. This information indicates that the _____.	existing deviation table is correct for this heading	compass error is 17°W	deviation table is in error for this heading	deviation is 1°E
5	12203	D	Your vessel is steady on a heading of 310° per standard magnetic compass when you sight Stratford Point Light and Igor I. Sikorsky Airport Aero Beacon in line dead ahead. This information indicates that the _____.	existing deviation table is correct for this heading	deviation is 1°E	variation is 18°W for this area	compass error is 10°W
5	12204	C	You sight Stratford Shoal (Middle Ground) Light and Old Field Pt. Light in line and bearing 200° per standard magnetic compass. What is the deviation of the compass?	7°E	7°W	3°E	3°W

5	12205	A	Your vessel is steady on a heading of 160° per standard magnetic compass when you sight Southwest Ledge Light and New Haven Outer Channel Range Rear Light in line dead astern. What is the deviation of the compass based on this observation?	2°E	2°W	5°E	5°W	
5	12206	B	You sight Bartlett Reef Light (LAT 41°16.5'N, LONG 72°08.2'W) in line with New London Harbor Light (LAT 41°19.0'N, LONG 72°05.4'W) and bearing 059° per standard magnetic compass. What is the compass deviation?	4°E	4°W	10°E	10°W	
5	12207	A	You sight Stratford Pt. Light in line with the Igor I. Sikorsky Airport Aero Beacon bearing 319° per standard magnetic compass. What is the compass deviation?	4°W	4°E	18°W	18°E	
5	12208	D	You sight Stratford Pt. Light in line with the Igor I. Sikorsky Airport Aero Beacon bearing 319° per standard magnetic compass. What is the compass error?	4°E	10°W	14°E	18°W	
5	12209	A	You sight South West Ledge Light in line with New Haven Outer Channel Range Rear Light bearing 338.5° per standard magnetic compass. What is the deviation?	3°E	4°W	6°E	9°W	
5	12210	D	You sight New Haven Outer Channel Range Rear Light in line with the Outer Channel Range Front Light bearing 343° per standard magnetic compass. What is your compass error?	5°E	5°W	9°E	9°W	
5	12300	D	You are on course 244° per standard magnetic compass when you sight Block Island Southeast Point Light in line with Block Island Aero Beacon bearing 326° per standard magnetic compass. Based on this you _____.	should swing your vessel to check the deviation table	know the compass error is 12°W	should suspect that there is a local magnetic disturbance	should apply 3°W deviation to any bearing (psc) while on a heading of 244°psc	
5	12301	C	You are on course 055° per standard magnetic compass when you sight Block Island Southeast Point Light in line with the Block Island Aero Beacon bearing 319° per standard magnetic compass. Based on this you _____.	should use 4°W deviation on true courses of 040°	know the compass error is 19°W	know the deviation table is correct for that heading	should apply 4°W deviation to all bearings	

5	12302	B	You are on course 203° per standard magnetic compass when you sight Block Island North Light in line with the Block Island Aero Beacon bearing 194° per standard magnetic compass. Based on this you _____.	know the correct deviation is 3°W	should swing your vessel to check the deviation table	should apply 15°W compass error to all compass readings	know you are steering a true course of 185°
5	12303	C	You are on course 056° per standard magnetic compass when you sight Block Island North Light in line with the Block Island Aero Beacon bearing 193° per standard magnetic compass. Based on this you _____.	know the compass error is 4°E	should swing your vessel to check for deviation	know the deviation table is correct for that heading	should use 3°W deviation on bearings of 193°psc
5	12304	A	You are on course 302° per standard magnetic compass when you sight Block Island Southeast Point Light in line with the Block Island Aero Beacon bearing 323° per standard magnetic compass. Based on this you _____.	know the deviation table is correct for that heading	know the deviation is 15°E	should swing your vessel to check the deviation table	know the deviation is equal to the variation
5	12305	C	You sight North Dumpling Island Light in line with Latimer Reef Light (LAT 41°18.2'N, LONG 71°56.0'W) bearing 095° per standard magnetic compass. If your vessel was heading 056° per standard magnetic compass at the time, which of the following is TRUE?	You should subtract 15°Compass error for bearings of 095°.	The deviation table is correct for all bearings of 095°.	The vessel should be swung, and the deviation table checked.	The compass error is 19°W for all headings.
5	12306	D	You sight North Dumpling Island Light in line with Latimer Reef Light (LAT 41°18.2'N, LONG 71°56.0'W) bearing 093° per standard magnetic compass. If your vessel was heading 185° per standard magnetic compass at the time, which of the following is TRUE?	The compass error is 2°W.	The deviation is 17°W.	The deviation is 2°W for all bearings of 093°.	The deviation table is correct for that heading.
5	12308	A	You sight North Dumpling Island Light in line with Latimer Reef Light (LAT 41°18.2'N, LONG 71°56.0'W) bearing 094° per standard magnetic compass. If your vessel was heading 207° per standard magnetic compass at the time, which of the following is TRUE?	The deviation table is correct for that heading.	The deviation by observation is 3°E.	The compass error is 12°W.	You should subtract 18° from all bearings of 094°.
5	12309	C	You sight North Dumpling Island Light in line with Latimer Reef Light (LAT 41°18.2'N, LONG 71°56.0'W) bearing 089° per standard magnetic compass. If your vessel was heading 297° per standard magnetic compass at the time, which of the following is TRUE?	The deviation table is correct for that heading.	The deviation equals the variation.	You should swing your vessel to check the deviation table.	The compass error is 13°W for all bearings of 089°psc.

5	12310	B	You sight North Dumpling Island Light in line with Latimer Reef Light (LAT 41°18.2'N, LONG 71°56.0'W) bearing 091° per standard magnetic compass. If your vessel was heading 246° per standard magnetic compass at the time, which of the following is TRUE?	The deviation table is correct.	The compass error is 18°W for that heading.	The deviation is equal to the variation.	The deviation is equal to but of opposite sign to the variation.	
5	12500	A	You are on course 135° per standard magnetic compass when you take the following bearings per standard magnetic compass: Cape Henry Light 266° Cape Charles Light 353° Chesapeake Light 124° What is your position?	LAT 36°57.3'N, LONG 75°50.9'W	LAT 36°57.5'N, LONG 75°50.1'W	LAT 36°57.6'N, LONG 75°51.6'W	LAT 35°57.9'N, LONG 75°50.8'W	
5	12501	D	You are on course 056° per standard magnetic compass when you take the following bearings: Cape Henry Light 262°psc Cape Charles Light 344°psc Chesapeake Light 125°psc What is your position?	LAT 36°58.4'N, LONG 75°49.1'W	LAT 36°58.1'N, LONG 75°50.0'W	LAT 36°57.8'N, LONG 75°49.2'W	LAT 36°57.6'N, LONG 75°49.8'W	
5	12502	A	You are on course 262° per standard magnetic compass when you take the following bearings: Cape Henry Light 252°psc Cape Charles Light 003°psc Chesapeake Light 131°psc What is your position?	LAT 36°59.0'N, LONG 75°52.9'W	LAT 36°58.1'N, LONG 75°52.6'W	LAT 36°57.9'N, LONG 75°53.2'W	LAT 36°58.6'N, LONG 75°52.2'W	
5	12505	A	You are on course 056°psc, when you take the following bearings: New Point Comfort Spit Light "2" 260°psc Horn Harbor Entrance Light "HH" 285°psc Wolf Trap Light 336°psc What is the position of the fix?	LAT 37°19.3'N, LONG 76°08.5'W	LAT 37°19.3'N, LONG 76°08.8'W	LAT 37°19.2'N, LONG 76°08.2'W	LAT 37°19.2'N, LONG 76°08.7'W	
5	12506	B	You are on course 203° per standard magnetic compass when you take the following bearings: New Point Comfort Spit Light 2 267°psc Horn Harbor Entrance Light HH 304°psc Wolf Trap Light 006°psc What is the position of the fix?	LAT 37°18.9'N, LONG 76°10.4'W	LAT 37°18.8'N, LONG 76°10.8'W	LAT 37°18.7'N, LONG 76°11.1'W	LAT 37°18.5'N, LONG 76°10.7'W	
5	12507	B	You are on course 300° per standard magnetic compass (psc) when you take the following bearings: New Point Comfort Spit Light "2" 240°psc Horn Harbor Entrance Light HH 268°psc Wolf Trap Light 003°psc What is the position of the fix?	LAT 37°20.8'N, LONG 76°09.6'W	LAT 37°20.8'N, LONG 76°11.0'W	LAT 37°20.9'N, LONG 76°11.5'W	LAT 37°21.1'N, LONG 76°08.2'W	

5	12508	D	You are on course 319° per standard magnetic compass when you take the following bearings: New Point Comfort Light "2" 244°psc Horn Harbor Entrance Light "HH" 267°psc Wolf Trap Light 335°psc What is the position of the fix?	LAT 37°20.9'N, LONG 76°09.7'W	LAT 37°21.0'N, LONG 76°09.2'W	LAT 37°21.0'N, LONG 76°09.9'W	LAT 37°21.1'N, LONG 76°09.5'W	
5	12509	D	You are on course 027° per magnetic compass when you take the following bearings per magnetic compass: New Point Comfort Light "2" 253° Horn Harbor Entrance Light HH 282° Wolf Trap Light 348° What is the position of the fix?	LAT 37°19.4'N, LONG 76°09.5'W	LAT 37°19.4'N, LONG 76°09.8'W	LAT 37°19.7'N, LONG 76°10.3'W	LAT 37°19.7'N, LONG 76°09.9'W	
5	12600	C	You are on course 243° per standard magnetic compass when you take the following bearings: Falkner Island Light 342°psc Mattituck Inlet Light 207°psc Horton Point Light 112°psc What is your position?	LAT 41°05.9'N, LONG 72°32.7'W	LAT 41°05.7'N, LONG 72°31.8'W	LAT 41°05.5'N, LONG 72°32.6'W	LAT 41°05.3'N, LONG 72°31.9'W	
5	12601	B	You are on course 062° per standard magnetic compass when you take the following bearings: Branford Reef Light 060°psc Stratford Point Light 272°psc New Haven Light 324°psc What is your position?	LAT 41°07.1'N, LONG 72°53.4'W	LAT 41°10.5'N, LONG 72°52.8'W	LAT 41°11.6'N, LONG 72°50.0'W	LAT 41°13.3'N, LONG 72°48.7'W	
5	12602	D	You are on course 087° per standard magnetic compass (psc) when you take the following bearings: Falkner Island Light - 022.0°psc Horton Point Light - 111.5°psc Mt. Sinai Breakwater Light - 254.0°psc What is your position?	LAT 41°13.6'N, LONG 72°46.6'W	LAT 41°10.5'N, LONG 72°40.5'W	LAT 41°07.0'N, LONG 72°44.5'W	LAT 41°06.8'N, LONG 72°40.7'W	
5	12604	C	You are on course 082° per standard magnetic compass (psc) when you take the following bearings: New London Ledge Light - 036.5°psc Little Gull Island Light - 157.0°psc Saybrook Break Water Light - 294.5°psc What is your position?	LAT 41°02.3'N, LONG 72°04.5'W	LAT 41°09.5'N, LONG 72°07.1'W	LAT 41°13.6'N, LONG 72°07.5'W	LAT 41°14.1'N, LONG 72°12.8'W	
5	12605	A	You are on course 209° per standard magnetic compass when you take the following bearings: New Haven Light - 331.5°psc Branford Reef Light - 066.5°psc Old Field Point Light - 240.5°psc What is your position?	LAT 41°10.5'N, LONG 72°52.8'W	LAT 41°11.3'N, LONG 72°49.9'W	LAT 41°13.6'N, LONG 72°53.0'W	LAT 41°14.5'N, LONG 72°48.8'W	

5	12607	C	You are on course 240° per standard magnetic compass when you take the following bearings: Old Field Point Light 253°psc New Haven Light 357°psc Mattituck Inlet Light 126°psc What is your position?	LAT 41°04.5'N, LONG 72°49.2'W	LAT 41°05.7'N, LONG 72°50.2'W	LAT 41°05.9'N, LONG 72°53.1'W	LAT 41°08.6'N, LONG 72°53.5'W	
5	12608	D	You are on course 083° per standard magnetic compass when you take the following bearings: Branford Reef Light 344.5°psc Falkner Island Light 053.5°psc Mattituck Inlet Light 141.5°psc What is your position?	LAT 41°10.4'N, LONG 72°43.0'W	LAT 41°09.6'N, LONG 72°44.9'W	LAT 41°08.4'N, LONG 72°43.7'W	LAT 41°08.0'N, LONG 72°44.8'W	
5	12609	A	You are on course 239° per standard magnetic compass when you take the following bearings: Falkner Island Light 314°psc Duck Island West Breakwater Light 2DI 039°psc Horton Point Light 157°psc What is your position?	LAT 41°09.9'N, LONG 72°32.0'W	LAT 41°09.3'N, LONG 72°33.0'W	LAT 41°10.5'N, LONG 72°32.1'W	LAT 41°11.6'N, LONG 72°33.6'W	
5	12610	B	You are on course 061° per standard magnetic compass when you take the following bearings: Bartlett Reef Light 070°psc Saybrook Breakwater Light 010°psc Horton Pt. Light 218°psc What is your position?	LAT 41°10.4'N, LONG 72°19.6'W	LAT 41°11.2'N, LONG 72°20.6'W	LAT 41°13.7'N, LONG 72°23.9'W	LAT 41°15.4'N, LONG 72°24.3'W	
5	12611	B	You are on course 262° per standard magnetic compass when you take the following bearings: Saybrook Breakwater Light - 338.5°psc Little Gull Island Light - 107.5°psc Horton Point Light - 240.0°psc What is your position?	LAT 41°11.9'N, LONG 72°16.7'N	LAT 41°12.6'N, LONG 72°17.2'W	LAT 41°13.0'N, LONG 72°17.7'W	LAT 41°12.1'N, LONG 72°17.3'W	
5	12612	B	You are on course 242° per standard magnetic compass (psc) when you take the following bearings: Stratford Point Light 325°psc Old Field Point Light 239°psc Middle Ground Light 270°psc What is your position?	LAT 41°04.4'N, LONG 72°59.5'W	LAT 41°05.1'N, LONG 72°59.3'W	LAT 41°05.4'N, LONG 73°00.1'W	LAT 41°04.8'N, LONG 73°59.3'W	
5	12700	D	You are on course 073° per standard magnetic compass when you take the following bearings: Watch Hill Point Light 037°psc Montauk Point Light 179°psc Race Rock Light 289°psc What is your position?	LAT 41°13.6'N, LONG 71°54.6'W	LAT 41°13.7'N, LONG 71°53.8'W	LAT 41°13.7'N, LONG 71°54.9'W	LAT 41°13.8'N, LONG 71°54.3'W	
5	12701	B	You are on course 298° per standard magnetic compass when you take the following bearings: Block Island Southeast Point Light - 058°psc Block Island Aero Beacon - 005°psc Montauk Point Light - 268°psc What is your position?	LAT 41°08.3'N, LONG 71°35.0'W	LAT 41°08.2'N, LONG 71°34.4'W	LAT 41°08.1'N, LONG 71°33.8'W	LAT 41°08.0'N, LONG 71°34.1'W	

5	12702	A	You are on course 282° per standard magnetic compass when you take the following bearings: Point Judith Light - 073°psc Block Island North Light - 156°psc Watch Hill Point Light - 293°psc What is your position?	LAT 41°17.0'N, LONG 71°38.2'W	LAT 41°17.1'N, LONG 71°39.1'W	LAT 41°17.2'N, LONG 71°38.7'W	LAT 41°17.2'N, LONG 71°37.8'W	
5	12703	C	You are on course 025° per standard magnetic compass when you take the following bearings: Point Judith Light - 072°psc Block Island North Point Light - 118°psc Watch Hill Light - 306°psc What s your position?)	LAT 41°14.9'N, LONG 71°43.2'W	LAT 41°15.1'N, LONG 71°44.0'W	LAT 41°15.4'N, LONG 71°43.1'W	LAT 41°15.6'N, LONG 71°42.8'W	
5	12704	A	You are on course 137° per standard magnetic compass when you take the following bearings: Watch Hill Point Light - 051°psc Montauk Point Light - 184°psc Race Rock Light - 279°psc What is your position?	LAT 41°15.2'N, LONG 71°54.4'W	LAT 41°15.1'N, LONG 71°53.8'W	LAT 41°15.1'N, LONG 71°54.9'W	LAT 41°15.0'N, LONG 71°53.7'W	
5	12705	A	You are on course 087° per standard magnetic compass when you take the following bearings: Little Gull Island Light 277°psc Race Rock Light 303°psc Latimer Reef Light 025°psc What is your position?	LAT 41°13.1'N, LONG 71°57.5'W	LAT 41°13.1'N, LONG 71°56.9'W	LAT 41°13.0'N, LONG 71°58.0'W	LAT 41°12.9'N, LONG 71°57.2'W	
5	12706	B	You are on course 053° per standard magnetic compass when you take the following bearings: Little Gull Island Light 275°psc Race Rock Light 296°psc Latimer Reef Light 011°psc What is your position?	LAT 41°12.9'N, LONG 71°56.3'W	LAT 41°13.2'N, LONG 71°56.0'W	LAT 41°13.4'N, LONG 71°55.5'W	LAT 41°13.8'N, LONG 71°56.1'W	
5	12707	C	You are on course 246° per standard magnetic compass when you take the following bearings: Little Gull Island Light 286° Race Rock Light 308° Latimer Reef Light 018°What is your position?	LAT 41°12.6'N, LONG 71°55.7'W	LAT 41°12.6'N, LONG 71°56.6'W	LAT 41°12.7'N, LONG 71°56.0'W	LAT 41°13.1'N, LONG 71°56.1'W	
5	12708	D	You are on course 302° per standard magnetic compass when you take the following bearings: Little Gull Island Light 283°psc Race Rock Light 311°psc Latimer Reef Light 027°psc What is your position?	LAT 41°12.2'N, LONG 71°57.6'W	LAT 41°12.4'N, LONG 71°57.4'W	LAT 41°12.4'N, LONG 71°57.9'W	LAT 41°12.6'N, LONG 71°57.6'W	
5	12709	B	You are on course 157° per standard magnetic compass when you take the following bearings: Little Gull Island Light 276°psc Race Rock Light 301°psc Latimer Reef Light 028°psc What is your position?	LAT 41°13.5'N, LONG 71°57.9'W	LAT 41°13.5'N, LONG 71°57.4'W	LAT 41°13.6'N, LONG 71°57.0'W	LAT 41°13.6'N, LONG 71°57.8'W	

5	12900	B	Your 1302 position is LAT 37°14.7'N, LONG 76°22.7'W. You are turning for 9.6 knots. What is your ETA at Trestle C of the Chesapeake Bay Bridge and Tunnel if you follow York River Entrance Channel?	1516	1505	1500	1451
5	12901	A	Your 1152 position is LAT 37°23.9'N, LONG 76°05.5'W. You are turning for 10.3 knots. What is your ETA at Trestle C of the Chesapeake Bay Bridge and Tunnel if you follow York Spit Channel?	1404	1349	1342	1339
5	12902	C	Your 1312 position is LAT 37°10.9'N, LONG 75°29.6'W. You are turning for 8.3 knots. What is your ETA at LAT 37°21.9'N, LONG 75°42.6'W?	1449	1456	1502	1511
5	12903	D	Your 1426 position is LAT 37°10.9'N, LONG 75°29.6'W. You are turning for 9.3 knots. What is your ETA at Chesapeake Light?	1616	1621	1626	1633
5	12904	C	Your 0916 position is LAT 37°10.9'N, LONG 75°29.6'W. You are turning for 12.3 knots. What is your ETA at North Chesapeake Bay Entrance Buoy NCA?	1035	1043	1051	1101
5	12905	D	At 0919 you are in Chesapeake Channel between Trestle B and Trestle C of the Chesapeake Bay Bridge and Tunnel. What is your ETA to a point between York Spit Channel Buoys "35" and "36" if you are making 11.3 knots and follow the buoyed channel?	1025	1028	1033	1037
5	12906	C	At 0919 you are in Chesapeake Channel between Trestle B and Trestle C of the Chesapeake Bay Bridge and Tunnel. What is your ETA between York River Entrance Channel Buoys "17" and "18" if you are making 11.3 knots?	1034	1039	1044	1049
5	12907	A	At 0914 you are in Chesapeake Channel between Trestle B and Trestle C of the Chesapeake Bay Bridge and Tunnel. What is your ETA at North Chesapeake Entrance Buoy NCA if you are making good 10.9 knots (Use the buoyed channel and appropriate sea lane)?	1038	1044	1049	1055

5	12908	B	At 0919 you are inbound, approximately 3.3 miles east of Cape Henry with buoy "15" close aboard to port. What is your ETA between Trestle B and Trestle C of the Chesapeake Bay Bridge and Tunnel if you are making 11.3 knots?	1010	1014	1019	1025	
5	12909	B	At 0914 you are in Chesapeake Bay southeast inbound lane with buoy "CBJ" close aboard to port. What is your ETA at Thimble Shoal Channel Buoy "19" if you are making 10.9 knots?	1034	1038	1046	1042	
5	13000	C	Your 2108 position is LAT 41°10.0'N, LONG 72°30.0'W. You are turning for 12.5 knots. What is your ETA at Buoy NH (LAT 41°12.1'N, LONG 72°53.8'W)?	2133	2227	2235	2248	
5	13001	B	At 1222 your position is LAT 41°05.5'N, LONG 72°47.3'W. You are making turns for 14.5 knots. What is your ETA at Twenty-Eight Foot Shoal Lighted Buoy (LAT 41°09.3'N, LONG 72°30.5'W)?	1309	1317	1321	1328	
5	13002	D	At 0829 your position is LAT 41°02.9'N, LONG 72°57.4'W. You are making turns for 8.5 knots. What is your ETA at a position midway between buoys "1" and "2" at the entrance of New Haven Outer Channel?	0925	0931	0938	0944	
5	13003	B	At 2102 your position is LAT 41°02.9'N, LONG 72°57.4'W. You are making turns for 16 knots. What is your ETA at a position 5 miles due south of Falkner Island Light?	2149	2155	2159	2204	
5	13004	C	At 1815 your position is LAT 41°05.5'N, LONG 72°47.3'W. You are making turns for 12.6 knots. What is your ETA at Plum Island Mid Channel Buoy PI (LAT 41°13.3'N, LONG 72°10.8'W)?	2019	2028	2032	2038	
5	13005	D	At 1715 your position is LAT 41°00.0'N, LONG 72°40.0'W. You are making turns for 15.5 knots. What is your ETA at a position 1.5 miles due south of Stratford Shoal Middle Ground Light?	1820	1824	1828	1832	
5	13006	C	Your 1600 position is LAT 41°08.0'N, LONG 72°44.8'W. You are making turns for 14 knots. What is your ETA at Mattituck Inlet?	1636	1643	1647	1651	

5	13007	D	Your 1600 position is LAT 41°08.0'N, LONG 72°44.8'W. You are making turns for 10 knots. What is your ETA at Twenty-Eight Foot Shoal Lighted Buoy "TE" (LAT 41°09.3'N LONG 72°30.5'W)?	1647	1651	1702	1706	
5	13008	B	Your 2215 position is LAT 41°05.4'N, LONG 72°59.4'W. You are making 15 knots. What is your ETA at Twenty-Eight Foot Shoal Lighted Buoy (LAT 41°09.3'N, LONG 72°30.5'W)?	2338	2343	2349	2354	
5	13009	A	Your 1830 position is LAT 41°05.4'N, LONG 72°59.4'W. You are making turns for 9 knots. What is your ETA at Mattituck Inlet?	2044	2052	2059	2106	
5	13010	C	Your 0620 position is LAT 40°59.5'N, LONG 73°00.5'W. You are making turns for 8 knots. What is your ETA at LAT 41°08.0'N, LONG 72°44.8'W?	0748	0802	0809	0814	
5	13100	A	Your position is LAT 41°15.2'N, LONG 71°50.1'W at 1347. You are turning for 6.9 knots. What is your ETA at Shagwong Reef Buoy "7SR"?	1506	1515	1521	1527	
5	13101	C	At 1523 your position is LAT 41°08.2'N, LONG 71°34.4'W. You are turning for 8.7 knots. What is your ETA at Shagwong Reef Buoy "7SR"?	1653	1700	1711	1718	
5	13102	B	At 2330 your position is LAT 41°16.9'N, LONG 71°38.2'W. You are turning for 9.3 knots. What is your ETA at the entrance to Great Salt Pond on Block Island?	2355	0005	0012	0019	
5	13104	D	At 0242 your position is LAT 41°16.8'N, LONG 71°39.9'W. You are turning for 9.3 knots. What is your ETA at the West Gap of Pt. Judith Harbor of Refuge?	0319	0325	0329	0336	
5	13105	D	At 1048 you are in the entrance to Great Salt Pond on Block Island with buoy "5" close aboard. What is your ETA at the west gap of Point Judith Harbor of Refuge if you make good 8.3 knots?	1149	1154	1158	1203	
5	13106	A	At 1048 you are in the entrance to Great Salt Pond on Block Island with buoy "5" close aboard. What is your ETA at the west gap of Point Judith Harbor of Refuge if you make good 11.3 knots?	1144	1154	1159	1205	

5	13107	C	At 1103 your position is LAT 41°12.5 N, LONG 71°37.4 W. What is your ETA at the west gap of Point Judith Harbor of Refuge if you make good 11.3 knots?	1144	1154	1159	1205
5	13108	D	At 1103 you are in the entrance to Great Salt Pond on Block Island with buoy "5" close aboard. What is your ETA at light "1" at the mouth of the approaches to Lake Montauk if you make good 8.2 knots?	1249	1254	1259	1310
5	13109	B	At 1113 you are in the entrance to Great Salt Pond on Block Island with buoy "5" close aboard. What is your ETA at light "1" at the mouth of the approaches to Lake Montauk if you make good 9.6 knots?	1310	1301	1254	1249
5	13210	A	At 0943, your position is LAT 41°14.8'N, LONG 71°54.3'W. You are turning for 12.2 knots. What is your ETA at the entrance to Great Salt Pond on Block Island?	1054	1048	1040	1032
5	13300	A	The soundings on this chart are measured in _____.	feet	yards	fathoms	meters
5	13301	B	The approach channel to the town of Cape Charles (LAT 37°16'N, LONG 76°01'W) has what controlling depth?	9 feet	17 feet	20 feet	40 feet
5	13302	D	The shoal spanned by Trestle B of the Chesapeake Bay Bridge and Tunnel is _____.	Chesapeake shoal	the Middle ground	Lynnhaven roads	the Tail of the Horseshoe
5	13303	C	You are considering anchoring approximately three miles northeast of Chesapeake Light. After examining the chart you decide not to because of the _____.	large number of wrecks	coral being designated as a special protected area	danger of unexploded mines	area being designated as a National Marine Sanctuary
5	13305	C	What are the bottom characteristics of Nautilus Shoal (LAT 37°03'N, LONG 75°56'W)?	Sand and shells	Hard sand	Fine gray sand	Mud and sand
5	13306	C	In the northern quadrant of the circle surrounding Chesapeake Bay Entrance Junction Buoy CBJ the number 20 over a bracket appears 5 times. What do these indicate?	Markers or piles are 20 feet above mean low water.	The maximum draft permitted in this area is 20 feet.	Obstructions have been cleared by a wire drag to 20 feet.	Bench marks used to measure channel depths while dredging.
5	13307	B	The soundings on the chart are based on the depth of water available at _____.	mean low water	mean lower low water	mean high water	mean high water springs

5	13308	C	You are navigating 1 mile north of Cape Henry Lighthouse at the southern entrance to Chesapeake Bay. You observe that this area is bounded on the chart by magenta bands. This indicates a(n) _____.	fish trap area	explosive anchorage	pilotage area	danger zone	
5	13309	D	What type of bottom can be expected at the northern end of York Spit Channel?	Hard clay	Fine gray sand	Soft black mud	Mud and sand	
5	13400	D	You are going to anchor at Gardiners Bay in LAT 41°04.5'N, LONG 72°13.0'W. What type of bottom should you expect?	Streaked mud	Sand	Hard rocks	Soft mud	
5	13401	C	You are planning to anchor in Orient Harbor at LAT 41°07.9'N, LONG 72°18.5'W. Assuming that normal conditions exist, how much anchor cable should you put out?	16 to 18 feet	40 to 60 feet	80 to 112 feet	120 to 140 feet	
5	13402	B	You are planning to anchor in Orient Harbor at LAT 41°07.9'N, LONG 72°18.5'W. What type of bottom should you expect?	Sticky	Soft	Stiff	Streaky	
5	13403	B	Your vessel has become disabled and is dead in the water. Your loran set fixes your position at LAT 41°12.1'N, LONG 72°43.5'W. You decide to anchor at this position. Which type of bottom should you expect?	Soft clay and sand	Soft mud and shell	Hard sand and rocks	Blue mud and gray sand	
5	13404	C	Your vessel has become disabled and is dead in the water. Your loran set fixes your position at LAT 41°12.1'N, LONG 72°43.5'W. You decide to anchor at this position. Under normal conditions, how much anchor chain should you expect to put out?	80 to 190 feet	190 to 240 feet	245 to 343 feet	345 to 420 feet	
5	13405	A	At 0400 your vessel is dead in the water and in heavy fog. Your loran set fixes your position at LAT 41°12.1'N, LONG 72°43.5'W. Bottom samples are taken and indicate a composition of soft mud and shell. Your fathometer reads 40 feet. If the vessel draws 9 feet of water, which of the following is TRUE?	The bottom samples and fathometer reading prove the loran fix is reliable.	The bottom samples and fathometer readings indicate that the loran fix is unreliable.	The information collected indicates that the fathometer may be in error.	The information collected indicates that the chart is most likely in error.	
5	13406	C	You are planning to anchor your vessel at LAT 41°01.1'N, LONG 73°02.8'W. What type of bottom should you expect at this position?	Gray sand	Soft mud	Gray mud	Hard sand	

5	13407	A	Your position is LAT 41°03.0'N, LONG 72°42.1'W. If your draft is 8 ft, what should your fathometer read at this position?	80 ft	88 ft	96 ft	99 ft	
5	13409	B	You plan to anchor your vessel at LAT 41°00.5'N, LONG 73°02.8'W. What type of bottom should you expect at this position?	Gray sand	Soft mud	Hard sand	Gray mud	
5	13410	C	You plan to anchor your vessel at LAT 41°05.1'N, LONG 72°59.3'W. Assuming that normal conditions exist, how much anchor cable should you put out?	150 to 300 feet	300 to 440 feet	440 to 600 feet	640 to 750 feet	
5	13500	A	The soundings on this chart are measured in _____.	feet	yards	meters	fathoms	
5	13501	C	What type of bottom is found off the southern coast of Long Island?	Blue Mud	Shingle	Brown Sand	Shells	
5	13502	D	The four soundings in the vicinity of LAT 41°12.2'N, LONG 71°33.0'W, that are underlined with a bracket indicate _____.	that no bottom was found at the sounding depth indicated	a submerged rock not dangerous to surface navigation	the height a rock uncovers at low water springs	a submerged danger that is cleared to the indicated depth by a wire drag	
5	13503	C	You are proceeding from a point 4 miles due east of Montauk Point enroute to Long Island Sound via The Race. You should expect the soundings to _____.	remain fairly constant	increase rapidly at first then remain constant until through the Race	start increasing when north of Montauk Point	be inaccurate due to sound absorption by the mud bottom	
5	13504	C	A vessel anchoring in the middle of Cherry Harbor, 1 mile off Gardiner's Island, will find what type of bottom?	Rocky	Shells	Mud	Silt	
5	13505	B	What soundings are indicated by a blue tint on this chart?	30 fathoms or more	30 feet or less	30 feet or more	30 fathoms or less	
5	13506	B	The broken magenta lines starting at Montauk Point and running generally ENE to Block Island indicate _____.	recommended tracks to Block Island	a submerged cable area	a military exercise area	demarcation lines for application of the COLREGS	
5	13507	C	Areas enclosed by a long and short dashed magenta line indicate _____.	cable areas	dumping grounds	fish trap areas	precautionary areas	
5	13508	A	The bottom approximately three miles to the ESE of Block Island Southeast Point has _____.	gravel	shale	stones	grit	
5	13509	B	Sounding contours in unshaded water areas are at what interval?	10 foot up to 100 ft depths then at 30 foot intervals	30 foot intervals	10 fathom intervals	The interval will vary to ensure any major underwater hazard is highlighted.	

5	13700	B	Local magnetic disturbances of up to how many degrees have been noted from Cape Henry to Currituck Beach Light?	2 degrees	6 degrees	11 degrees	17 degrees	
5	13701	C	Why are there no buoys charted at the approach to Sand Shoal Inlet (LAT 37°16'N, LONG 75°46'W)?	No buoys are stationed there.	They frequently shift position due to heavy weather.	They are frequently shifted to conform to the changing channel.	The buoys are being replaced with fixed lights.	
5	13702	D	What chart should you use in Lynnhaven Bay (west of Cape Henry)?	12221	12256	12205	12254	
5	13703	B	NOAA weather broadcasts can be received on what frequency while navigating off Cape Henry?	162.45 MHz	162.55 MHz	162.65 MHz	162.70 MHz	
5	13705	C	The broken magenta lines (long and short dashes) in and around Mobjack Bay (LAT 37°20'N, LONG 76°22'W) indicate _____.	amphibious training areas	grounds for dredge spoil	fish trap areas	gunnery exercise areas	
5	13706	B	What is the horizontal clearance of the navigation opening of Trestle B of the Chesapeake Bay Bridge and Tunnel?	21 feet	70 feet	75 feet	300 feet	
5	13707	C	The level of mean high water at Old Point Comfort is how many feet above the sounding datum?	1.5 feet	2.2 feet	2.5 feet	3.5 feet	
5	13708	A	A note on the chart indicates that currents in excess of how many knots can be expected in the vicinity of the Chesapeake Bay Bridge and Tunnel?	3.00 knots	2.20 knots	1.75 knots	1.50 knots	
5	13709	A	Anchorage regulations for this area may be obtained from _____.	Office of the Commander 5th Coast Guard District	Commanding General, Corps of Engineers, Washington, DC	Virginia - Maryland Pilots Association	Chesapeake Bay Port Authority, Hampton, VA	
5	13801	C	You are operating in the area approximately 2 miles southeast of Kelsey Point when you realize that your vessel's intended track will carry you over the wreck charted at LAT 41°13.5'N, LONG 72°29.6'W. Which statement is TRUE?	The chart indicates the exact position of the wreck.	The wreck has been cleared by wire drag to a depth of 39 ft.	The wreck represents a danger to surface navigation.	The wreck is visible above the sounding datum.	
5	13802	D	Which chart would you use for more detailed information on the Connecticut River?	12354	12370	12371	12375	
5	13803	A	NOAA Weather Broadcasts for the New London area may be received by turning your radio to _____.	162.550 MHz	162.475 MHz	162.400 MHz	162.350 MHz	

5	13804	C	What is the significance of the broken magenta lines which roughly parallel the shore between Roanoke Point and Orient Point on Long Island?	They mark the limits of breakers in that area.	These lines warn the mariner of submerged rocks.	They mark the boundary lines of fish trap areas.	These lines warn the mariner of submerged pipelines.	
5	13805	D	What is the danger associated with anchoring your vessel within a 300 yard radius of Gardiners Point?	An unusually strong current exists in this area.	The bottom is not suitable for holding the anchor.	Submerged pilings may exist in this area.	Your anchor could become fouled on undetonated explosives.	
5	13806	B	The chart symbol surrounding Saybrook Breakwater Light warns mariners that the navigational light structure is _____.	no longer maintained	protected by riprap	privately maintained	awash at high tide	
5	13807	D	The chart symbol depicted at LAT 40°58.5'N, LONG 72°43.4'W indicates a(n) _____.	abandoned lighthouse	light ship	wreck with only its mast visible	wreck showing a portion of the hull above the sounding datum	
5	13808	B	The chart symbol depicted at LAT 41°13.5'N, LONG 72°29.7'W indicates _____.	the exact position of a dangerous wreck	the approximate position of a wreck dangerous to surface navigation	a wreck cleared by wire drag to a depth of 39 feet	a wreck not dangerous to surface navigation	
5	13809	A	Which chart, of the same scale, continues eastward from this chart?	13205	13212	13214	13216	
5	13810	A	Which chart would you use if you planned to continue westward beyond the coverage of this chart?	12363	12373	13205	13218	
5	13900	C	The trapezoidal shaped areas enclosed by a thin broken magenta line and located along the south coast of Long Island are _____.	designated training areas for Navy amphibious craft	disposal areas for unexploded munitions	fish trap areas	anchorage areas for small craft	
5	13901	A	The precautionary area southeast of Block Island refers to a _____.	recommended traffic lane	military exercise area	national marine refuge	dumping ground for hazardous wastes	
5	13902	D	A vessel enroute to Long Island Sound from sea will enter waters governed by the Inland Rules of the Road _____.	when crossing the Territorial Sea boundary	between Montauk Point and Block Island	when north of latitude 41°10.0'N	when passing through The Race	
5	13903	B	Your position is LAT 41°12.4'N, LONG 71°53.2'W. You are on course 163°T enroute to sea. You can ensure that you will clear Montauk Point if your loran reading is always _____.	more than 9960-X-25990	less than 9960-W-14665	more than 9960-Y-43870	All of the above	
5	13904	C	On the south and the east coasts of Block Island are circles with a dot in the center and labeled CUP. This is a _____.	conspicuous object	steep depression in the surrounding hills that resembles a cup	domed structure useful for navigation	calling-up-point used for traffic control	

5	13905	D	The Ruins (LAT 41°08.5'N, LONG 72°08.8'W) is _____.	a classic example of 18th century military fortifications	in an area of unpredictable, treacherous currents	restricted to surface navigation due to fishery conservation projects nearby	prohibited to the public	
5	13906	A	When approaching Block Island Sound from Long Island Sound, you will enter waters governed by the International Rules of the Road when you _____.	pass through The Race	cross the territorial sea boundary	exit Block Island Sound to the east or south	None of the above, as Long Island Sound is governed by the International Rules of the Road	
5	13908	D	Montauk Point Light is 168 feet above what reference level?	Mean low water	Mean tide level	Ground level	Mean high water	
5	13909	B	The irregular black line around a charted light such as Race Rock Light indicates that it is _____.	unwatched	surrounded by riprap	a minor light	constructed on an artificial island	
5	14001	B	At 1745 Lady Island Range is in line dead ahead and Government Island Upper Range is in line on your starboard bow. Your vessel is steaming in a westerly direction. At 1851 you pass under the Interstate 5 highway bridge. What speed have you averaged?	10 mph	11 mph	12 mph	13 mph	
5	14002	C	At 1630 your vessel exits Bonneville Lock steaming in a westerly direction. What speed must you average to arrive at the Interstate 5 highway bridge with an ETA of 2120?	6 mph	7 mph	8 mph	9 mph	
5	14003	D	At 1430 your vessel passes under the Interstate 5 highway bridge east bound. Your engines are making RPM's for 12 mph. If the current is ebbing at 3 mph, what is your ETA at Bonneville Lock?	1744	1753	1834	1848	
5	14004	C	At 1745 Lady Island Upper Range is in line dead astern and Washougal Lower Range is in line on the starboard bow. You are steaming in an easterly direction. What speed must you average to arrive abeam of Cape Horn Light No. 67 at 1839?	9.3 mph	9.8 mph	10.2 mph	10.8 mph	
5	14005	C	At 0800 your vessel is at mile 110 on the Columbia River. You are steaming in an easterly direction. At 0854 Lady Island Range is in line dead astern and Government Island Upper Range is in line on your port quarter. What speed have you averaged?	8.1 mph	8.5 mph	9.4 mph	10.2 mph	

5	14100	B	Your vessel is awaiting lockage at Bonneville Lock. The staff gauge on the guide wall reads 18'-06". What is the maximum vessel draft allowed to enter the lock?	17'-00"	17'-06"	18'-00"	18'-06"	
5	14101	D	What signal is given by air horn to indicate that Bonneville Lock is ready for entrance?	two long blasts	two short blasts	one short blast	one long blast	
5	14102	C	Your vessel is awaiting lockage at Bonneville Locks when you notice that the lock is displaying an amber signal light. What type of vessel is allowed to enter the chamber under this signal?	Vessels owned or operated by the United States	Passenger vessels	Commercial freight and log-tow vessels	All vessels	
5	14103	A	You are approaching Bonneville Lock and Dam and desire lockage. Which call sign should you use to contact the lock?	WUJ 33	WUJ 34	WUJ 41	WUJ 45	
5	14104	B	You are approaching Bonneville Lock and Dam. Which FM-radio channel should be used to communicate with the lockmaster?	13	14	15	16	
5	14200	B	What is the length of the city wharf at The Dalles on the Columbia River?	20 feet	over 1000 feet	800 feet	600 feet	
5	14201	D	The draw of the Burlington Northern railroad bridge across the Columbia River at mile 328.0 shall be opened on signal, without prior notice, from _____.	6:00 am to 6:00 pm	6:00 pm to 6:00 am	8:00 pm to 4:00 am	8:00 am to 4:00 pm	
5	14202	B	What is the minimum clearance for the bridge across the entrance to the Wind River at Home Valley, WA.?	14 feet	26 feet	34 feet	38 feet	
5	14203	A	What is the vertical clearance of the fixed bridge across the entrance to Rock Creek at Stevenson, Washington?	18 feet	36 feet	54 feet	70 feet	
5	14204	C	The mooring float at Beacon Rock State Park is restricted to pleasure boats and to periods not to exceed _____.	12 hours	24 hours	36 hours	48 hours	

5	14205	C	You are off the coast of Mexico and are taking a time tick for 1600. At approximately 1554, you hear the preparatory signal "VVVV de XDD" from the time signal station. Then you hear a series of 1 second dashes followed by a 9 second silent period and then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 03h 59m 56s. When compared to the chronometer, the comparing watch reads 04h 01m 22s, and the chronometer reads 04h 02m 11s. What is the chronometer error?	0m 04s slow	2m 15s slow	0m 45s fast	1m 26s fast	
5	14300	A	What is the height above the water of Government Island Upper Range, lower light?	20 feet	24 feet	38 feet	42 feet	
5	14301	D	What are the characteristics of Washougal Light on the Columbia River?	Equal interval green, 6 seconds	Quick flashing red, 2 seconds	Flashing green, 4 seconds	Flashing red, 2.5 seconds	
5	14302	A	What are the characteristics of the upper light of Government Island Lower Range, on the Columbia River?	Equal interval red, 6 seconds	Green group flashing, 6 seconds	Quick flashing red, 6 seconds	Equal interval green, 6 seconds	
5	14303	B	What is the height above the water of light No. 84 on the Columbia River below Bonneville lock & dam?	10 feet	14 feet	18 feet	24 feet	
5	14304	C	What is a characteristic of light No. "41" on the Columbia River above Bonneville Lock?	The light shows an isophase characteristic.	The light is 3 meters above the water.	The light is equipped with a radar reflector.	The light is red in color.	
5	14401	C	You are underway and steaming in an easterly direction on the Columbia River. Your vessel is positioned in the middle half of Cape Horn Channel and is abeam of Cape Horn Light. What should your fathometer read at this position, if the staff gauge at Portland reads 0 feet?	16 feet	18 feet	22 feet	24 feet	
5	14402	D	You are underway and proceeding in an easterly direction on the Columbia River. Your vessel is positioned in the right outside quarter of McGowans Channel and is abeam of light No. 88. What should your fathometer read at this position, if the staff gauge at Portland reads + 15.0 feet?	22 feet	31 feet	43 feet	52 feet	

5	14403	B	You are underway and steaming in an easterly direction on the Columbia River. After bringing Fisher Quarry Channel Range in line over your bow, you move to the left outside quarter of the channel. What should your fathometer read at this position, if the staff gauge at Portland reads +12.5 feet?	7.5 feet	32.5 feet	41.5 feet	51.5 feet	
5	14404	A	You are underway and proceeding in an easterly direction on the Columbia River. You position your vessel in the middle of the channel and bring Government Island Lower Range in line over your bow. What should your fathometer read at this position, if the staff gauge at Portland reads 10.0 feet?	15 feet	24 feet	28 feet	31 feet	
5	14500	D	Your vessel is at mile 170 on the Columbia River. You are proceeding in a westerly direction and are approaching the lift bridge at Hood River. The pool level of the Bonneville reservoir stands at 92 feet above MSL. If the highest point on your vessel is 52 feet above the water, which of the following statements is TRUE?	You may pass under the lift bridge, in the "down" position with a vertical clearance of 15 feet.	You may pass under the lift bridge in the "up" position with a clearance of 96 feet.	You may pass under the lift bridge, in the "down" position with a vertical clearance of 25 feet.	You may pass under the lift bridge, in the "up" position with a vertical clearance of 76 feet.	
5	14501	C	You are proceeding in an easterly direction on the Columbia River. The pool level of the Bonneville Reservoir stands at 65 feet above MSL. If the highest point on your vessel is 54 feet above the water, what will be the vertical clearance as you pass under the overhead power cables at mile 186.2?	94 feet	101 feet	108 feet	117 feet	
5	14502	A	You are proceeding in an easterly direction on the Columbia River. The pool level of the Bonneville reservoir stands at 84 feet above MSL. If the highest point on your vessel is 49 feet above the water, what will be the vertical clearance as you pass under the center of the Bridge of the Gods?	74.0 feet	86.0 feet	97.5 feet	123 feet	

5	14503	B	You have just cleared Bonneville Lock and are proceeding in an easterly direction on the Columbia River. The pool level of the Bonneville reservoir stands at 78 feet above MSL. If the highest point on your vessel is 46 feet above the water, what will be the vertical clearance when you pass under the overhead power cables at mile 146.5?	134 feet	138 feet	144 feet	150 feet
5	14504	D	You are proceeding in a westerly direction on the Columbia River. The pool level of the Bonneville reservoir stands at 72 feet above MSL. If the highest point on your vessel is 44 feet above the water, what will be the vertical clearance as you pass under the overhead power cables at mile 173.8?	43 feet	68 feet	111 feet	115 feet
5	14515	B	At 2150, your position is LAT 36°57.2'N, LONG 76°01.3'W. In this position on the chart, you note a light magenta line running in a direction of 030°T. This line indicates the limits of _____.	a precautionary area	a pilotage area	the Cape Henry Light red sector	chart 12222
5	14517	D	From your 2200 fix, you steer course 288°T to travel up the Thimble Shoal North Auxiliary Channel. If you are making good 6.0 knots, at what time would you expect to pass buoy "18" at the west end of the channel? (There are no set and drift.)	2239	2255	2315	2344
5	14600	C	What is the length of The Dalles Lock on the Columbia River?	475 feet	500 feet	675 feet	1200 feet
5	14601	B	Where would you look for information on the restricted areas shown on the chart immediately above and below the spillway at The Dalles Lock & Dam ?	Light List - Vol II	Coast Pilot 7 - Chapter 2	Notice to Mariners	Sailing directions
5	14602	C	Where would you tune your radio to receive a VHF-FM weather broadcast for the Columbia River in the vicinity of Government Island?	KIH-32 - 162.40 MHz	KBA-99 - 162.40 MHz	KEB-97 - 162.55 MHz	KEC-62 - 162.55 MHz
5	14603	A	Clearances of bridges and overhead cables below Bonneville Dam refer to heights in feet above mean _____.	lower low water	high water	low water	sea level
5	14604	D	Contour elevations on this chart refer to heights in feet above mean _____.	lower low water	high water	low water	sea level

5	14700	A	How many nautical miles are between mile 105 and mile 234 on the Columbia River?	112.1	119.5	129.0	148.4	
5	14701	B	How many nautical miles are between mile 44 and mile 163 on the Columbia River?	98.6	103.4	119.5	136.9	
5	14702	C	At 2200 your vessel is at mile 95 proceeding in an easterly direction on the Columbia River. At 0400 the following morning, you pass the 125 mile mark. How many nautical miles have you traveled since 2200?	22.6	24.3	26.1	34.5	
5	14703	B	At 0800 your vessel is at mile 110 proceeding in an easterly direction on the Columbia River. At 1030 Reed Island is abeam to port as you pass the 125 mile mark. What has been your average speed in knots?	4.3 knots	5.2 knots	8.7 knots	10.0 knots	
5	14704	D	At 0800 your vessel is at mile 110 on the Columbia River. Thirty minutes later your vessel is at mile 115. What is your speed in knots?	4.3 knots	5.7 knots	7.8 knots	8.7 knots	
5	15006	C	You are on course 192°pgc at 12 knots. You obtain a loran fix at 1900 using the following information:  9960-X-27120 9960-Y-41623 9960-Z-58729  What is your latitude and longitude at 1900?	LAT 37°21.5'N, LONG 75°34.8'W	LAT 37°22.4'N, LONG 75°34.9'W	LAT 37°22.6'N, LONG 75°35.7'W	LAT 37°22.9'N, LONG 75°36.2'W	
5	15007	C	What course should you steer using the standard magnetic compass (psc) to make good the course of 192°pgc?	188°psc	195°psc	203°psc	205°psc	
5	15008	D	At 1920, the buoy forward of your starboard beam is _____.	an interrupted quick flashing buoy	Hog Island Lighted Bell Buoy	South Light Buoy	Sand Shoal Inlet Lighted Buoy "A"	
5	15009	C	At 1930, your position is LAT 37°16.7'N, LONG 75°37.7'W. The depth of water is approximately _____.	30 feet ( 9.1 meters)	40 feet (12.1 meters)	50 feet (15.1 meters)	60 feet (18.1 meters)	
5	15010	B	At 1950, your position is LAT 37°12.3'N, LONG 75°38.6'W. The set and drift from 1930 to 1950 were _____.	150°T at 0.6 knot	150°T at 1.6 knots	330°T at 0.6 knot	330°T at 1.6 knots	

5	15011	C	Assume set and drift have no effect on your vessel. If you change course to 187°pgc from your 1950 position, how close will you pass Cape Charles Lighted Bell Buoy "14"?	0.1 mile	0.5 mile	1.1 mile	1.7 miles
5	15012	D	At 2020, you obtain a fix using the following information:  9960-X-27112 9960-Y-41432  Cape Charles Lighted Bell Buoy "14" bears 333°pgc. Your longitude is _____.	75°38.9'W	75°39.1'W	75°39.3'W	75°40.5'W
5	15013	C	At 2020, what is the course to steer to enter the inbound lane of North Chesapeake Entrance traffic separation scheme if a northwesterly wind causes 3° of leeway?	227°pgc	224°pgc	221°pgc	215°pgc
5	15014	B	If you make good 12 knots, what is the ETA at North Chesapeake Channel Entrance Buoy "NCA" (LL #375)?	2116	2111	2106	2101
5	15015	C	At 2100, Cape Charles Light bears 321°pgc, and Cape Henry Light bears 247°pgc. Your latitude is _____.	37°00.0'N	36°59.7'N	36°59.4'N	36°59.1'N
5	15016	C	If the visibility is 3 miles, at what range will you lose sight of Chesapeake Light?	The light has never been visible.	6.4 miles	8.3 miles	12.1 miles
5	15017	A	At 2100, you alter course to 250°T and reduce speed to 7 knots. You enter the traffic separation scheme on the inbound side. At 2200, your fix shows you crossing a broken purple line on the chart, and you observe North Chesapeake Entrance Lighted Gong Buoy "NCD" to port. This area is _____.	a precautionary area centered on buoy "CBJ"	a pilotage area	an area with local magnetic disturbances	in inland waters
5	15018	C	What course per standard magnetic compass (psc) is the same as 247°pgc?	240°psc	246°psc	257°psc	260°psc
5	15019	C	At 2215, Cape Henry Light bears 242°pgc, Cape Charles Light bears 010.5°pgc, and Chesapeake Channel Tunnel North Light bears 319°pgc. You are heading 271°pgc. What is the relative bearing of Thimble Shoal Light?	280°	332°	014°	017°

5	15020	D	While navigating inbound in the Thimble Shoal Channel system you must _____.	navigate in the main channel when between Trestles A & B	maintain a minimum speed of 6 knots	remain 1500 yards (1360 meters) from large naval vessels	use the north auxiliary channel	
5	15022	C	You are upbound approaching Springfield Bend Lt. (mile 244.8 AHP) downriver from Profit Island. Which of the following statements is TRUE?	Profit Island Chute is open to navigation and is a shortcut for single-barge tows.	Tow length must not exceed 600 feet to use Profit Island Chute.	Profit Island Chute is closed to navigation.	Tows must navigate towards right descending bank when passing Profit Island Chute.	
5	15023	C	At 1042, on 16 March, you are passing the Vicksburg Gage (mile 437.0 AHP). What has been the average current since 0630, 15 March, if you have been making turns for 8.0 mph?	0.2 mph	0.5 mph	0.8 mph	1.2 mph	
5	15024	B	Which of the following statements regarding buoys on the Mississippi River is TRUE?	The positions of river buoys can be found in the latest edition of Light List-Vol. V.	Buoy positions on the chart are approximate.	The buoys are maintained on station year round.	The buoys do not shift positions due to permanent moorings.	
5	15025	A	What is the mile point of the Arkansas City Gage?	554.1 AHP	556.8 AHP	560.0 AHP	562.8 AHP	
5	15026	A	The highest point on your towboat is 53 feet above the water, and the Helena Gage (mile 663 AHP) reads 6.7 feet. What is the vertical clearance when you pass under the Helena Highway Bridge in Helena?	59.9 feet	62.5 feet	64.1 feet	65.5 feet	
5	15027	B	You are passing the Memphis Gage at 0405, 18 March. If you are turning for 8 mph and estimate the current at 0.9 mph, what is your ETA at Cairo Point, IL (mile 954.5 AHP)?	0447, 19 Mar	1052, 19 Mar	1518, 19 Mar	1808, 19 Mar	
5	15028	C	At what time would you listen to VHF Channel 22 (157.1 MHz) for information concerning the stage of the river between Memphis and Cairo?	1115	1235	1300	1815	
5	15029	A	What type of daymark will you see as you approach Gold Dust Bar Light (mile 793.3 AHP) ?	Red diamond	Red triangle	Green square	Green diamond	
5	15038	B	At 0705 you obtained the following Loran readings:  9960-X-27091.2 9960-Y-41612.8 9960-Z-58744.2  What is your vessel's position?	37°20.4'N 75°30.2'W	37°20.8'N 75°29.9'W	37°21.3'N 75°29.5'W	37°21.2'N 75°30.4'W	

5	15039	C	At 0725 you determined your vessel's position to be 37°15.5'N, 75°33.2'W. Assuming that you make good your course of 206° true and a speed of 18 knots, at what time would you expect to be abeam of Cape Charles Lighted Bell Buoy "14"?	0750	0754	0758	0802
5	15040	A	At about what time will you see Chesapeake Light if visibility is exceptionally clear?	0729	0733	0738	0742
5	15041	A	At 0741 you are still steering a course of 206° true, with a speed of 18 knots. At this time you observe Cape Charles Lighted Bell Buoy "14" bearing 222° true, Hog Island Lighted Bell Buoy "12" bearing 015° true and the Loran reading 9960-Z-58677.3. What were the set and drift experienced since 0725?	259°true at 3.2 knots	049°true at 2.5 knots	240° true at 1.9 knots	042°true at 3.3 knots
5	15042	C	From your 0741 position, you wish to change course in order to pass 2.2 miles easterly of Cape Charles Lighted Bell Buoy "14". Your engine speed is now 14.0 knots. You estimate the current to be 240° true at 1.8 knots. What is the true course to steer to make good the desired course?	179°true	185°true	190° true	197°true
5	15043	C	At 0811 your vessel's position is 37°04.9'N, 75°39.7'W. You are steering a course of 220° true at a speed of 14.0 knots. At what time would you expect the buoys in the northeasterly traffic scheme to line up, if you do not correct for a southwesterly current of 1.8 knots?	0826	0831	0837	0846
5	15044	A	At 0841 Chesapeake Light bears 164° true, Cape Charles Light bears 312° true, and Cape Henry Light bears 247° true. What was your course made good since 0811?	226°true	230°true	233° true	237°true
5	15045	B	From your 0841 position, you are steering a course of 241° true to the northeasterly inbound channel entrance, your speed is now 15 knots. What is your ETA abeam of buoy "NCA" (LL#375)?	0850	0855	0901	0911

5	15046	C	As you pass through the Chesapeake Bay Bridge and Tunnel, you take a bearing of 047°pgc along trestle C when it is in line. The helmsman reports the vessel's heading as 316°pgc and 329°psc. What is the deviation on that heading?	3°E	1°E	1°W	9°W
5	15056	A	You are in New Haven Outer Channel and sight the range markers in line directly over the stern. Your heading at the time is 168° per standard magnetic compass. What is the magnetic compass error?	15°W	1°W	1°E	0°
5	15057	D	At 0720, you are in the outer channel between buoy "1" and buoy "2" and change course to pass Townshend Ledge Lighted Gong Buoy "10A" abeam to port at 0.1 miles. What is the course to steer per gyro compass if a northerly wind causes 2° of leeway?	120°pgc	118°pgc	116°pgc	114°pgc
5	15058	D	At 0740, you plot a loran fix from the following readings:  9960-X-26545.9 9960-Y-44022.3 9960-W-15030.3  What is your position?	LAT 41°12.0'N, LONG 72°51.3'W	LAT 41°12.0'N, LONG 72°51.8'W	LAT 41°12.1'N, LONG 72°51.5'W	LAT 41°12.1'N, LONG 72°52.0'W
5	15059	C	From your 0740 position, you change course to pass 0.8 miles north of Falkner Island Light. Which loran reading will ensure that you will remain clear of the 18' shoal located 1 mile NW of Falkner Island Light?	9960 W: not less than 14942	9960 X: not more than 26452	9960 Y: not less than 44013	None of the above
5	15060	B	At 0802, the radar range and bearing to Branford Reef Light are 350°pgc at 0.8 mile, and the north point of Falkner Island are 090°pgc at 6.7 miles. What were the set and drift that you encountered since 0740?	Set 085°T, drift .2 knot	Set 085°T, drift .6 knot	Set 265°T, drift .2 knot	Set 265°T, drift .6 knot
5	15061	C	Falkner Island Light is shown _____.	46 feet (13.9 meters) above sea level	only from 1 June to 10 October	from a white octagonal tower	with a six-second period

5	15062	D	If there is no current, what is the course per standard magnetic compass from your 0802 fix to a position 1.1 miles north of Falkner Island Light?	064°psc	068°psc	091°psc	095°psc	
5	15063	D	At 0830, you want the latest weather forecasts for the Falkner Island area. On what frequency do you set your FM radio for this information?	2182 kHz	162.80 Mhz	156.65 Mhz	162.55 Mhz	
5	15064	B	At 0844, the range to the north end of Falkner Island is 2.0 miles and the left tangent bearing is 102°T. If the height of the tide is +1.0 foot, what is the approximate depth of the water under the keel?	14 ft (4.2 meters)	19 ft (5.8 meters)	22 ft (6.7 meters)	29 ft (8.8 meters)	
5	15065	C	At 0925, you plot the following loran fix:  9960-W-14930.5 9960-X-26417.0 9960-Y-44006.5  If you correct for a current setting 035°T at 0.5 knot, what true course will you steer from the 0925 position to arrive at a position 0.5 mile south of Long Sand Shoal West End Horn Buoy "W"?	089°T	092°T	095°T	102°T	
5	15066	B	If you correct for the current in the preceding question (035°T at 0.5 knot) and maintain an engine speed of 7.5 knots, what is your ETA 0.5 mile south of buoy "W"?	1016	1021	1026	1030	
5	15067	A	At 0946, the radar range to Hammonasset Point is 2.5 miles. The range to the eastern most point of Falkner Island is 3.3 miles, and the range to Horton Point is 10.1 miles. What is your position at 0946?	LAT 41°13.1'N, LONG 72°34.8'W	LAT 41°13.0'N, LONG 72°34.5'W	LAT 41°12.8'N, LONG 72°35.1'W	LAT 41°12.8'N, LONG 72°34.4'W	
5	15068	B	Long Sand Shoal _____.	shoals gradually on the north and south sides	is hard and lumpy	shows breakers when northerly winds exceed 10 knots	has gray sand with scattered shells	
5	15069	C	During extreme low water, the soundings near Saybrook may require corrections up to _____.	1 foot (+.3 meters)	-2 feet (-.6 meters)	-3.5 feet (-1.1 meters)	The sounding datum is based on extreme low water and no correction is necessary	

5	15070	A	As you enter New London Harbor, you are steering on the entrance range. The lights are in line over the bow as you are heading 352°pgc. What is the gyro error?	2°E	0°	1°W	3°W
5	15106	B	The National Weather Service provides 24 hour weather broadcasts to vessels transiting the Chesapeake Bay Bridge Tunnel area on which frequency?	147.45 MHz	162.55 MHz	181.15 MHz	202.35 MHz
5	15107	A	At 1752, your position is LAT 37°04.3'N, LONG 76°06.4'W. On a flood current you should expect to be set to the _____.	north northwest	south southwest	east southeast	east
5	15108	A	Your 1752 position places you _____.	less than 0.5 mile westward of York Spit Channel	less than 0.5 mile eastward of York Spit Channel	greater than 0.5 mile westward of York Spit Channel	greater than 0.5 mile eastward of York Spit Channel
5	15109	B	What is the average velocity of the maximum flood current at the Tail of the Horseshoe?	0.6 knot	0.9 knot	1.3 knots	1.6 knots
5	15110	D	From your 1752 position, you steer 307°pgc at 9 knots. At 1805, you obtain the following visual bearings:  Old Pt. Comfort Light                      232°pgc. Chesapeake Bay Tunnel North Light 130°pgc.  What are the latitude and longitude of you 1805 position?	LAT 37°06.1'N, LONG 76°08.1'W	LAT 37°06.0'N, LONG 76°08.4'W	LAT 37°05.9'N, LONG 76°07.7'W	LAT 37°05.9'N, LONG 76°08.0'W
5	15111	C	At 1810, you sight a buoy on your starboard side labeled "19". This buoy marks _____.	a submerged obstruction in York Spit Channel	the visibility limit of the red sector of Cape Henry Light	the side of York Spit Channel	the junction of the York Spit and York River Entrance Channels
5	15112	B	Based on a DR, at approximately 1817 you would expect to _____.	enter a traffic separation zone	depart a regulated area	cross a submerged pipeline	depart a restricted area
5	15113	D	At 1845, you obtain a loran fix using the following information:  9960-X-27252.0 9960-Y-41432.0 9960-Z-58537.5  Your latitude is _____.	37°10.7'N	37°10.9'N	37°11.0'N	37°11.2'N

5	15114	B	Your 1900 position is LAT 37°12.9'N, LONG 76°13.5'W. You change course to 317°pgc and slow to 8.0 knots. What is the course per standard magnetic compass?	331°psc	329°psc	311°psc	309°psc
5	15115	D	If the visibility is 11 miles, what is the luminous range of New Point Comfort Spit Light "4"?	0.5 mile	3.8 miles	4.3 miles	5.0 miles
5	15116	A	According to your track line, how far off New Point Comfort Spit Light "4" will you be when abeam of this light?	0.9 mile	1.2 miles	1.5 miles	1.8 miles
5	15117	B	At 1930, you take a fix using the following radar ranges:  York Spit Light - 3.6 miles New Point Comfort Spit Light "2" - 2.0 miles York Spit Swash Channel Light "3" - 2.5 miles  Your longitude is _____.	76°16.5'W	76°16.8'W	76°17.0'W	76°17.2'W
5	15118	C	What was the speed made good from 1845 to 1930?	6.2 knots	7.5 knots	8.3 knots	9.4 knots
5	15119	B	What is the height above water of Davis Creek Channel Light "1"?	6 feet (1.8 meters)	15 feet (4.6 meters)	17 feet (5.2 meters)	24 feet (7.3 meters)
5	15120	D	If you have 17.3 miles to reach your destination from your 2000 position and want to be there at 2230, what speed should you make good?	5.7 knots	6.1 knots	6.5 knots	6.9 knots
5	15138	C	At 2045 you obtained the following Loran readings: 9960-W-14844.0 9960-X-26128.0 9960-Y-43712.5 What is your vessel's position?	40°41.1'N, 72°10.5'W	40°41.4'N, 72°10.7'W	40°41.8'N, 72°10.8'W	40°42.3'N, 72°11.3'W
5	15139	C	At what time would you expect to be abeam of Buoy "MP"?	2240	2244	2248	2252
5	15140	B	At 2100 your position is 40°44.1'N, 72°07.6'W. From this position, at which time will Montauk Point Light become visible if the luminous range of the light is 8 miles?	2215	2221	2227	2235
5	15141	D	At 2146 your position is 40°51.3'N, 71°59.2'W. If your engine speed has been 13 knots, what were the set and drift of the current you encountered since your 2100 position?	115°true at 1.1 knots	115°true at 1.5 knots	295° true at 1.1 knots	295°true at 1.5 knots

5	15142	A	At 2146 if your fathometer is set on feet, what should be the approximate reading on your fathometer?	88 feet	105 feet	121 feet	166 feet
5	15143	B	From your 2146 position, with a new engine speed of 12 knots, you wish to change course in order to pass southeast of Buoy "MP" at a distance of 2 miles. With a reported set of 320° true and a drift of 2 knots, which course should you steer to make good your desired course?	055°true	061°true	066° true	071°true
5	15144	C	At 2310 Buoy "MP" bears 305° true with a radar range of 2.5 miles, and you obtained a Loran reading of 9960-Y-43823.3. From this position you change course to 005° true. Without any set and drift, what would be your predicted distance off Southwest Ledge Buoy "2" when it is on your starboard beam?	0.9 mile	1.1 miles	1.5 miles	1.9 miles
5	15145	B	At 2357 your position is 41°09.0'N, 71°47.0'W and Montauk Point Light bears 216° true. You change to a course of 293° true and your speed is 14.5 knots. At 0012 Montauk Point Light bears 177° true. Which statement about your 0012 running fix is TRUE?	You are being set to the north.	The fathometer reading is about 14 fathoms.	You are governed by the Inland Rules of the Road.	The fathometer trace shows you passed over the 89 foot sounding.
5	15146	D	At 0016 your position is 41°10.3'N, 71°53.0'W. You are steering a course of 296° true with no set and drift. At 0049 Race Rock Light is on your starboard beam. What was your speed made good from your 0016 position?	13.8 knots	14.4 knots	15.0 knots	15.6 knots
5	15156	C	Your 1600 position is LAT 37°22.5'N, LONG 75°32.3'W. The depth of water is about _____.	38 feet (11.5 meters)	45 feet (13.6 meters)	52 feet (15.8 meters)	59 feet (17.3 meters)
5	15157	D	If there is no current, what is the course per gyro compass from your 1600 position to point "A" located 0.5 mile due east of Hog Island Lighted Bell Buoy "12"?	190°pgc	193°pgc	196°pgc	199°pgc
5	15158	B	At 1630, you reach point "A" and come right to 204°T. Your engine speed is 12 knots. Your 1715 position is LAT 37°09.8'N, LONG 75°37.4'W. The current was _____.	067°T at 1.1 knots	067°T at 1.5 knots	247°T at 1.1 knots	247°T at 1.6 knots

5	15159	B	<p>From your 1715, fix you steer 214°T at 12 knots. At 1800, you take the following Loran-C readings:</p> <p>9960 - X - 27116.8 9960 - Y - 41386.0 9960 - Z - 58620.6</p> <p>Your 1800 position is _____.</p>	LAT 37°02.8'N, LONG 75°43.9'W	LAT 37°02.9'N, LONG 75°43.1'W	LAT 37°03.0'N, LONG 75°43.3'W	LAT 37°03.1'N, LONG 75°42.8'W	
5	15160	D	<p>At 1815, your position is LAT 37°01.0'N, LONG 75°42.7'W. If there is no current, what is the course per standard magnetic compass to arrive at a point 0.3 mile due north of North Chesapeake Entrance Lighted Whistle Buoy "NCA"?</p>	249.0°psc	251.5°psc	255.0°psc	257.0°psc	
5	15161	C	<p>From your 1815 position, you want to make good course 263° T. Your engines are turning RPMs for 12 knots. The current is 050°T at 1.9 knots. Adjusting your course for set and drift, at what time should you expect to enter the red sector of Cape Henry Light?</p>	1851	1857	1904	1911	
5	15162	A	<p>At 1920, Cape Henry Light bears 231°pgc, and Chesapeake Channel Tunnel North Light bears 294°pgc. If your heading is 268°T, what is the relative bearing of Chesapeake Light?</p>	213°	201°	194°	179°	
5	15163	A	<p>Which statement concerning your 1920 position is TRUE?</p>	You are entering a restricted area.	You are governed by the Inland Rules of the Road.	You are within the Chesapeake Bay Entrance traffic separation scheme.	On your present course Trestle "C" of the Chesapeake Bay Bridge - Tunnel is dead ahead.	
5	15164	C	<p>From your 1920 position, you change course to enter Chesapeake Channel between buoys 9 and 10. What is the course per gyrocompass?</p>	271°pgc	274°pgc	277°pgc	280°pgc	
5	15165	A	<p>At 2000, your position is LAT 37°04.1'N, LONG 76°05.6'W. You change course for the Eastern Shore. At 2037, Old Plantation Flats Light bears 033°pgc, and York Spit Light bears 282°pgc. The course made good from your 2000 position was _____.</p>	006°T	014°T	020°T	028°T	

5	15166	C	At 2037, you change course and wish to make good a course of 016°T. There is no current, but an easterly wind is causing 3° leeway. What course per standard magnetic compass should you steer to make good the course 016°T?	022°psc	025°psc	028°psc	031°psc
5	15167	B	Your height of eye is 25 feet (7.6 meters). If the visibility is 11 nautical miles, what is the luminous range of Wolf Trap Light?	8.2 miles	12.0 miles	16.0 miles	17.0 miles
5	15168	C	Which chart provides more detail of Cape Charles harbor and its approaches?	12238	12225	12224	12222
5	15169	A	At 2123, your position is LAT 37°20.0'N, LONG 76°03.0'W. What is your distance offshore of Savage Neck?	1.7 miles	2.5 miles	3.6 miles	10.9 miles
5	15170	C	From your 2123 position, you are approximately 42 miles from Crisfield, MD. If you are making good a speed of 11 knots, at what time should you arrive at Crisfield, MD?	2359	0037	0112	0149
5	15206	A	At 1730, your position is LAT 37°13.9'N, LONG 76°26.4'W. You are steering course 088° per standard magnetic compass (psc) at an engine speed of 8.0 knots. What is your distance off Tue Marshes Light at 1730?	2.6 miles	2.8 miles	3.0 miles	3.2 miles
5	15207	D	What is the maximum allowable speed of vessels underway up river from Tue Marshes Light?	6 knots	8 knots	10 knots	12 knots
5	15208	C	At 1750, your position is LAT 37°14.5'N, LONG 76°22.9'W. What was the course made good between 1730 and 1750?	072°T	075°T	078°T	080°T
5	15209	D	At 1800, Tue Marshes Light bears 264.5°pgc, York Spit Swash Channel Light "3" bears 007°pgc. Your position is _____.	LAT 37°15.5'N, LONG 76°19.8'W	LAT 37°15.2'N, LONG 76°20.3'W	LAT 37°15.0'N, LONG 76°20.0'W	LAT 37°14.5'N, LONG 76°20.1'W
5	15210	B	What course should you steer per standard magnetic compass in order to navigate down the center of York River Entrance Channel (ignore set and drift)?	139°psc	141°psc	147°psc	149°psc
5	15211	C	You have just passed York River Entrance Channel Lighted Buoys "13" and "14". The chart shows a light approximately 1.0 mile off your port beam with a light characteristic "Fl 6 sec". What is the name of this light?	Mobjack Bay Entrance Light	New Point Comfort Shoal Light	York Spit Light	York River Entrance Channel Light "1"

			At 1930, your vessel is between York River Entrance Channel Lighted Buoys "1YR" and "2". From this position, you change course to 142°pgc at an engine speed of 8.0 knots. At 2001, you obtain the following information: Chesapeake Channel Tunnel North Light - 131°pgc; Thimble Shoal Light - 248°pgc					
5	15212	B	What were the set and drift between 1930 and 2001?	127° at 1.1 knot	127° at 0.5 knot	307° at 1.1 knot	307° at 0.5 knot	
5	15213	A	At 2015, your vessel is at the Chesapeake Bay Bridge and Tunnel midway between buoys "13" and "14". If the height of tide is -1 foot (-0.3 meters), what is the approximate depth of water?	53 feet (15.5 meters)	46 feet (13.9 meters)	40 feet (12.1 meters)	35 feet (10.6 meters)	
5	15214	B	If you steer 143°pgc from your 2015 position at an engine speed of 8.0 knots, at what time would you reach a point midway between buoys "11" and "12" (ignore set and drift)?	2023	2029	2032	2037	
5	15215	A	At 2015, you alter course to 154°pgc. What is the course per standard magnetic compass (psc)?	162°psc	157°psc	152°psc	142°psc	
5	15216	C	Which of the following concerning Thimble Shoal Channel is TRUE?	Only deep-draft passenger ships and large naval vessels may use the main channel.	The channel is 14.5 miles in length.	A tow drawing 20 feet is excluded from the main channel.	Thimble Shoal Channel is in international waters.	
5	15217	B	At 2118, you obtain the following bearings:  Cape Henry Light - 148°pgc Cape Charles Light - 033°pgc Thimble Shoal Light - 291°pgc  From this position, you proceed to Norfolk, VA, a distance of approximately 26.0 miles. To arrive at Norfolk at 0200 the next day, what is the speed to make good from your 2118 position to arrive at this time?	5.0 knots	5.5 knots	6.0 knots	6.5 knots	
5	15218	B	What is your 2118 position?	LAT 36°57.0'N, LONG 76°01.5'W	LAT 36°57.4'N, LONG 76°01.9'W	LAT 36°57.8'N, LONG 76°01.5'W	LAT 36°58.2'N, LONG 76°02.4'W	

5	15219	D	From your 2118 position, you steer a course of 288°T at an engine speed of 7.0 knots. At 2120 visibility is suddenly reduced to 2 miles. At what time can you expect to see Old Point Comfort Light?	2136	2143	2202	2228
5	15220	C	If the Old Point Comfort main light was inoperative what emergency light would be shown?	Flashing yellow	Alternating red and white	Light of reduced intensity	Strobe light
5	15230	D	What is the distance from Cairo Point, IL, to Arkansas City?	28 miles	110 miles	292 miles	400 miles
5	15238	B	At 0930 you obtain a position from the following information: Race Rock Light bears 110°T at a range of 1.4 miles, and Goshen Point bears 330°T at a range of 3.3 miles. What are your present latitude and longitude?	41°16.0'N, 72°09.5'W	41°15.1'N, 72°04.6'W	41°17.4'N, 72°06.0'W	41°14.6'N, 72°03.0'W
5	15239	A	At 1000 buoy "PI" is abeam to starboard a distance of 0.5 mile. From this position, with a set of 295° and a drift of 1.6 knots, what course must you steer to arrive at a point with Buoy "TE" one mile abeam to starboard?	247°T	249°T	251°T	253°T
5	15240	D	You take a Loran-C fix at 1130 using the following lines:  9960-X-26319 9960-W-14880  The fathometer reads 81 ft. Your position is _____.	north of your intended track line	41°09.4'N, 72°22.6'W	three miles southeast of Six Mile Reef Buoy "8A"	41°08.5'N, 72°27.3'W
5	15241	C	At 1155 your vessel's position is LAT 41°09.0'N, LONG 72°34.4'W. If you make good a course of 282°T and a speed of 10.0 knots, when will you arrive at New Haven Harbor Lighted Whistle Buoy "NH"?	1315	1320	1325	1330

5	15242	D	<p>From your 1155 position, you steer a course of 282°T at a speed of 9.5 knots. You obtain the following bearings:</p> <p>1205: Falkner Island Light bears 318°T 1225: Falkner Island Light bears 355°T</p> <p>Your 1225 running fix is _____.</p>	north of your intended track	3.1 miles SSW of Falkner Island Light	ahead of the DR position	south of your intended track
5	15243	B	<p>At 1245 the loran readings obtained show your position to be LAT 41°10.3'N, LONG 72°44.2'W. You are steering a course of 284°T at an engine speed of 13.0 knots. At what time would you expect the New Haven Harbor Outer Range to be in line if you have a current setting 112°T at 1.2 knots?</p>	1318	1323	1328	1343
5	15244	A	<p>At the time of your 1245 position, which statement is TRUE?</p>	Your fathometer should indicate a reading of approximately 47 feet.	Bradford Reef is 5.7 miles on the starboard bow.	You are in a danger area.	You must follow the International Rules of the Road.
5	15245	B	<p>After departing the New Haven terminals, your 1800 position puts the New Haven Harbor Lighted Bell Buoy "NH" bearing 130°T at a range of 0.2 mile. From this position you set a course to leave Stratford Shoal Middle Ground Light 1.0 mile off your starboard beam. Your speed is 12.5 knots. At 1845 you determine your position to be LAT 41°05.5'N, LONG 73°03.1'W. What were the set and drift of the current?</p>	294°T at 0.5 knot	294°T at 0.8 knot	114°T at 0.5 knot	114°T at 0.8 knot
5	15246	C	<p>From your 1845 position, you desire to leave Stratford Shoal Middle Ground Light 1.0 mile off your starboard beam at 1900. Which course and speed would you order if you allow for a 2.0 knot current with a set of 180°T?</p>	205°T at 9.2 knots	208°T at 11.4 knots	215°T at 9.2 knots	225°T at 11.5 knots
5	15256	B	<p>At 0700, Stratford Shoal Middle Ground Light bears 143°pgc at 1.8 miles. What is your 0700 position?</p>	LAT 41°04.8'N, LONG 73°06.7'W	LAT 41°05.0'N, LONG 73°07.6'W	LAT 41°05.1'N, LONG 73°06.8'W	LAT 41°05.3'N, LONG 73°07.9'W

5	15257	A	At 0725, Stratford Point Light bears 327°pgc at 3.1 miles. At this time, you wish to change course to 048°T. The current is 135°T at 1.8 knots. Your engine speed is 8 knots. What course must you steer to make good 048°T?	035°T	038°T	041°T	044°T	
5	15258	A	Which structure should you look for while trying to locate Stratford Point Light?	White conical tower with a brown band midway of height	White octagonal house on a cylindrical pier	Conical tower, upper half white, lower half brown	Black skeleton tower on a granite dwelling	
5	15259	D	At 0830, you obtain the following Loran-C readings:  9960-W-15043.1 9960-Y-44028.1  What is your vessel's position?	LAT 41°12.1'N, LONG 73°53.8'W	LAT 40°12.2'N, LONG 73°54.4'W	LAT 41°12.3'N, LONG 72°53.6'W	LAT 41°12.4'N, LONG 72°54.0'W	
5	15260	D	From your 0830 position, you wish to make good 097°T. There is no current, but a southerly wind is producing 4° leeway. What course should you steer per standard magnetic compass in order to make good your true course?	101°psc	108°psc	110°psc	115°psc	
5	15261	B	You make good 097°T from your 0830 fix. With a westerly current of 1.2 knots, what engine speed will you have to turn for from your 0830 position in order to arrive abeam of Six Mile Reef Buoy "8C" at 1030?	9.7 knots	10.5 knots	10.9 knots	12.1 knots	
5	15262	C	At 0910, your DR position is LAT 41°11.9'N, LONG 72°47.8'W. Your vessel is on course 097°T at 9.5 knots, and the weather is foggy. At 0915, Branford Reef Light is sighted through a break in the fog bearing 318°T. At 0945, Falkner Island Light is sighted bearing 042°T. What is your 0945 running fix position?	LAT 41°11.3'N, LONG 72°41.2'W	LAT 41°11.3'N, LONG 72°41.0'W	LAT 41°11.5'N, LONG 72°40.7'W	LAT 41°11.6'N, LONG 72°41.0'W	
5	15263	D	What do the dotted lines around Goose Island and Kimberly Reef represent?	Danger soundings	Breakers	Tide rips	Depth contours	

5	15264	B	At 1100, your position is LAT 41°11.3'N, LONG 72°28.0'W. You are steering a course of 069°T to leave Black Point one mile off your port beam. It has been reported that the Long Sand Shoal Buoys and Hatchett Reef Buoys are off station. What will serve to keep your vessel in safe water and away from these hazards?	Danger bearing to Black Point of not less than 065°T	A Loran reading of not more than 9960-Y-43982.0	A bearing to Little Gull Island Light of not less than 090°	A distance to Saybrook Breakwater Light of not less than 1.3 miles	
5	15265	D	Orient Point Light is _____.	lighted only during daytime when the sound signal is in operation	maintained only from May 1 to Oct 1	64 feet (19.4 meters) above mean low water	lighted throughout 24 hours	
5	15266	B	At 1210, you are in position LAT 41°14.3'N, LONG 72°16.5'W. What is the charted depth of water?	97 feet (29.4 meters)	108 feet (32.7 meters)	119 feet (36.1 meters)	125 feet (37.9 meters)	
5	15267	A	From your 1210 position, you are making good a course of 083° T. Your engines are turning RPMs for 10 knots. The set and drift of the current are 310° at 1.7 knots. At what time should you expect to enter the red sector of New London Harbor Light?	1243	1249	1253	1301	
5	15268	D	Your vessel is proceeding up New London Harbor Channel, and you are in line with the range. What would be your course per standard magnetic compass?	352°	354°	002°	007°	
5	15269	A	New London Harbor is _____.	limited to vessels drawing less than 36 feet (10.8 meters)	closed during the winter season	subject to dangerous freshets in the fall	difficult to enter at night	
5	15270	C	The distance from New London to the east entrance of the Cape Cod Canal is _____.	66 miles	77 miles	89 miles	136 miles	
5	15306	B	Your 0200 position is LAT 37°23.5'N, LONG 76°09.2'W. Your speed is 8 knots, and your course is 095°T. Which statement is TRUE?	The depth of the water in your vicinity is about 38 to 40 fathoms (69.1 meters to 72.7 meters).	You are less than a mile from a sunken wreck which could interfere with your tow.	The closest major aid to navigation is New Point Comfort Light.	You will pass through a disposal area on your present course.	

			At 0315, you obtain the following loran readings:  9960-Y-41588.0 9960-X-27240.0					
5	15307	B	What is the true course from this position to the entrance of York Spit Channel?	203°	208°	211°	217°	
5	15308	A	From your 0315 position, what time can you expect to reach York Spit Channel Buoys "37" and "38"?	0405	0412	0417	0423	
5	15309	C	The engineer has advised that it will be necessary to secure the gyrocompass and the electronic equipment. From your 0315 position, what is your course per standard magnetic compass to York Spit Channel Buoy "38", if there is no current?	212°psc	214°psc	216°psc	218°psc	
5	15310	A	Which chart could you use for greater detail of the area at the south end of York Spit Channel?	12222	12224	12226	12254	
5	15311	C	You leave York Spit Channel at buoy "14" at 0600 with an engine speed of 12 knots. You receive orders to rendezvous with the tug "Quicksilver" and her tow at Hog Island Bell Buoy "12". What is your ETA at the rendezvous point, if you pass through Chesapeake Channel to buoy "CBJ", through the outbound traffic separation lane to buoy "NCA" (LL#375), and then to the rendezvous point?	0830	0850	0910	0935	
5	15312	C	You arrive at the rendezvous point, secure the tow, and head back southward. At 1200, you take the following loran readings:  9960-Y-41534 9960-X-27114 9960-Z-58691	LAT 37°10.5'N, LONG 75°33.0'W	LAT 37°12.0'N, LONG 75°35.0'W	LAT 37°15.0'N, LONG 75°37.5'W	LAT 37°19.0'N, LONG 75°40.5'W	
5	15313	B	From your noon position, if there is no set and drift, what is your course per standard magnetic compass to the "NCA" (LL #375) buoy?	215°psc	217°psc	219°psc	221°psc	

5	15314	A	Your gyro and electronic gear are again operating. At 1710, Chesapeake Light bears 137°pgc at 6.6 miles. The current is setting 160°T at 2 knots. At your speed of 6 knots, what is your true course to steer to remain in the inbound traffic lane?	269°	265°	261°	250°	
5	15315	D	At 1810, you obtain the following loran readings:  9960-X-27158.0 9960-Y-41292.5 9960-Z-58546.9  What is your position?	LAT 36°56.0'N, LONG 75°58.5'W	LAT 36°55.4'N, LONG 75°56.0'W	LAT 36°54.9'N, LONG 75°53.8'W	LAT 36°56.8'N, LONG 75°55.6'W	
5	15316	D	What speed have you made good from 1710 to 1810?	4.2 knots	4.9 knots	5.5 knots	6.3 knots	
5	15317	A	If you make good a speed of 6.0 knots from your 1810 position, what is your ETA at Chesapeake Channel Lighted Bell Buoy "2C"?	1833	1845	1855	1900	
5	15318	D	You passed Cape Henry Light at 0730 outbound at maximum flood. What approximate current can you expect on entering Chesapeake Channel?	Slack before ebb	Slack before flood	Ebb current	Flood current	
5	15319	B	The coastline by Cape Henry is best described as _____.	rocky with pine scrubs	sandy hills about eighty feet high	low wetlands	low and thinly wooded with many beach houses	
5	15320	A	Inbound, the color of Cape Henry Light will _____.	change before you reach Chesapeake Channel Lighted Bell Buoy "2C"	change after you reach Chesapeake Channel Lighted Bell Buoy "2C"	remain the same	alternate regardless of your position	
5	15338	C	At 1705 Race Rock Light bears 099°True; Orient Point Light bears 176°True; Bartlett Reef Light bears 083°True. What is your vessel's position?	LAT 41°15.0'N, LONG 72°14.3'W	LAT 41°15.4'N, LONG 72°16.6'W	LAT 41°15.9'N, LONG 72°14.0'W	LAT 41°16.4'N, LONG 72°14.2'W	
5	15339	B	If there is no set or drift, at what time would you be abeam of Bartlett Reef Light?	1719	1724	1729	1734	
5	15340	C	At 1718, Bartlett Reef Light bears 050°T at a distance of 1.5 miles. From this position, you change course to 128° T. At 1750 Race Rock Light bears 336°T, Little Gull Island Light bears 285°T, and Montauk Point Light bears 134°T. What were the set and drift of the current you encountered since 1718?	245°T at 0.9 knots	245°T at 1.7 knots	065°T at 1.7 knots	065°T at 0.9 knots	

5	15341	A	If your fathometer is set on fathoms, what should your fathometer read at 1750?	8.5 fathoms	10.2 fathoms	14.7 fathoms	51.0 fathoms	
5	15342	C	At 1756 you determined your vessel's position to be 41°10.4'N, 71°59.2'W. From this position, you wish to change course to head for a point 5 miles west of Block Island North Light. With a reported set of 050°T, a drift of 2.0 knots and turning RPM's for 14 knots, which course should you steer to make good your desired course?	070°T	075°T	080°T	085°T	
5	15343	D	At 1844 you obtained the following Loran readings:  9960-W-14607 9960-X-25962 9960-Y-43920  Which statement is TRUE?	Watch Hill Point is abeam.	You are governed by the Inland Rules of the Road.	You are to the left (north) of your desired course line.	Your vessel is approximately 8.7 miles off Sandy Point.	
5	15344	C	From your 1850 position of 41°12.8'N, 71°44.1'W, you change course to 060°T. If you make the course good, what will be your predicted distance off Point Judith Light when the Light bears 015°T?	1.2 miles	1.9 miles	2.7 miles	3.4 miles	
5	15345	A	You are making good a course of 060°T at a speed of 13.5 knots. At 1855 Block Island North Light bears 086°T; at 1910 Block Island North Light bears 108°T; and at 1930 the same light bears 184°T. Which statement is TRUE about your 1930 running fix position?	You are on the edge of a cable area.	The bottom is mud, sand, and clay.	The wavy magenta lines to the north through east of your position are designated lobstering areas.	Following a Loran-C reading of 9960-Y-43941 or more will keep you to the south of Point Judith Buoy "2".	
5	15346	B	At 1942 Point Judith bears 030°T and has a range of 3.6 miles and Sandy Point has a range of 5.3 miles. What was your speed made good from your 1850 position?	12.5 knots	13.0 knots	13.5 knots	14.0 knots	

			You are on course 092°T, and the engines are turning for 8 knots. At 0452, you take the following bearings:  Stratford Point Light 020°pgc Stratford Shoal (Middle Ground) Light 141°pgc					
5	15356	B	What is your 0452 position?	LAT 41°05.4'N, LONG 73°07.7'W	LAT 41°05.2'N, LONG 73°07.8'W	LAT 41°05.2'N, LONG 73°07.5'W	LAT 41°05.1'N, LONG 73°07.7'W	
5	15357	D	If the visibility is 10 miles, what is the earliest time you can expect to see New Haven Light?	The light is visible at 0452.	0458	0510	You will not sight the light.	
5	15358	C	At 0507, Stratford Shoal Middle Ground Light bears 208°pgc. What is the position of your 0507 running fix?	LAT 41°04.8'N, LONG 73°05.0'W	LAT 41°04.9'N, LONG 73°04.8'W	LAT 41°05.1'N, LONG 73°05.1'W	LAT 41°05.3'N, LONG 73°04.8'W	
5	15359	B	Based on your running fix, you _____.	have a head current	have a following current	are being set to the north	are not affected by a current	
5	15360	A	Your 0507 position is about 7 miles from Bridgeport, CT. What is the distance from this position to Newport, RI?	88 miles	95 miles	101 miles	114 miles	
5	15361	D	Your 0530 position is LAT 41°04.9'N, LONG 73°01.1'W. What is the course per standard magnetic compass to a position 1.0 mile south of Twenty Eight Foot Shoal "TE" buoy?	082.0°psc	092.5°psc	096.0°psc	099.5°psc	
5	15362	D	The south shore of Long Island Sound near your position is _____.	marked by gradual shoaling	low and marshy	backed by marshes and wooded uplands	bluff and rocky	
5	15363	B	At 0530, you change course to 090°T and increase speed to 8.5 knots. What is the course to steer per gyro compass if northerly winds are causing 2° of leeway?	088°pgc	090°pgc	092°pgc	094°pgc	
5	15364	A	At 0615, Stratford Point Light bears 292°pgc, Falkner Island Light bears 052°pgc, and Branford Reef Light bears 018°pgc. What was the current since 0530?	083° at 1.2 knots	083° at 0.9 knots	263° at 1.2 knots	263° at 0.9 knots	
5	15365	D	Which loran line can you follow to remain clear of all danger until south of New London?	9960-W-15000	9960-W-14900	9960-X-26450	9960-Y-43960	
5	15366	D	At 0615 you change course to 078°T. If there is no current, when will Falkner Island Light be abeam?	0750	0743	0735	0730	

5	15367	B	At 0700, Falkner Island Light bears 023°pgc, and the range to the south tip of Falkner Island is 7.1 miles. What was the course made good since 0615?	078°T	081°T	084°T	087°T
5	15368	C	At 0705, the gyro loses power. At 0730, you are on course 092° per standard magnetic compass (psc). Falkner Light bears 356°psc, Horton Point Light bears 123°psc, and Kelsey Point Breakwater Light bears 048°psc. What is the position of your 0730 fix?	LAT 41°06.7'N, LONG 72°36.1'W	LAT 41°06.8'N, LONG 72°36.0'W	LAT 41°07.0'N, LONG 72°36.2'W	LAT 41°07.2'N, LONG 72°36.1'W
5	15369	A	Horton Point Light _____.	is shown from a white square tower	has a fixed green light	is 14 feet above sea level	is synchronized with a radio beacon
5	15370	C	If visibility permits, Little Gull Island Light will break the horizon at a range of approximately _____.	11.1 miles	12.8 miles	15.6 miles	18.0 miles
5	15406	D	At 1400, your position is LAT 37°14.7'N, LONG 76°22.3'W. From this position, you head for the York River Entrance Channel Buoy "17". What should you steer per standard magnetic compass for this heading?	108°psc	119°psc	122°psc	125°psc
5	15407	D	At 1430, your position is LAT 37°12.8'N, LONG 76°17.7'W. At this time, you come left and steer 045°T. This course will lead you through a channel bordered by yellow buoys. The dashed magenta lines between the buoys mark _____.	York River Entrance Channel	New Point Comfort shoal area	the piloting channel for Mobjack Bay	the limits of fish trap areas
5	15408	B	From your 1430 fix, you order turns for 8 knots. You steer 045°T and experience no set and drift. At what time would you expect to have New Point Comfort Spit Light "4" abeam?	1452	1458	1504	1510
5	15409	D	At 1540, your position is LAT 37°18.4'N, LONG 76°10.5'W. Which course should you steer per gyrocompass to head for the entrance to Cape Charles City?	109°pgc	117°pgc	123°pgc	129°pgc

5	15410	C	<p>You arrive at Cape Charles City at 1700 and depart at 1800.  You are underway in Chesapeake Bay and encounter heavy fog. At 1830, you obtain the following Loran-C readings:</p> <p>9960-X-27224  9960-Y-41456  9960-Z-58572</p> <p>What is your 1830 position?</p>	LAT 37°10.3'N, LONG 76°04.5'W	LAT 37°10.3'N, LONG 76°06.5'W	LAT 37°12.3'N, LONG 76°04.4'W	LAT 37°12.3'N, LONG 76°06.5'W	
5	15411	B	<p>From your 1830 fix, you continue south on a course of 150°T turning RPMs for 6 knots. You encounter a flood current in the direction of 330°T at 2 knots. Adjusting your course for set and drift, which course would you steer to make good a course of 150°T while turning RPMs for 6 knots?</p>	144°T	150°T	158°T	162°T	
5	15412	D	<p>Determine your 1915 position using the following information obtained at 1915.</p> <p>Visual bearings  Cape Charles Light 107°pgc  Cape Henry Light 172°pgc</p> <p>Radar Bearing and Range  Chesapeake Channel Tunnel South Light 189°pgc at 7.2 miles</p>	LAT 37°03.5'N, LONG 76°05.9'W	LAT 37°03.5'N, LONG 76°09.3'W	LAT 37°05.9'N, LONG 76°03.5'W	LAT 37°09.3'N, LONG 76°03.1'W	
5	15413	D	<p>From your 1915 fix you come right and steer a course of 200°T. At 2000, your position is LAT 37°05.5'N, LONG 76°07.0'W. Your intention is to pass through Chesapeake Channel. If there are no set and drift, what course would you steer per standard magnetic compass to make good a course of 145°T?</p>	134°	139°	151°	156°	

5	15414	A	At 2100, you have passed through the Chesapeake Bay Bridge and Tunnel and determine your position to be LAT 37°01.3' N, LONG 76°03.0'W. The current is flooding in a direction of 303°T at 2.5 knots. Adjusting your course for set and drift, which course would you steer while turning RPMs for 6 knots to make good a course of 175°T?	156°T	164°T	183°T	190°T
5	15416	B	At 2200, you are in position LAT 36°57.5'N, LONG 76°02.5'W. You intend to travel up the Thimble Shoals auxiliary Channel to Hampton Roads. According to the Coast Pilot, what is the depth of the auxiliary channel on either side of the main channel?	28 feet (8.5 meters)	32 feet (9.8 meters)	36 feet (11.0 meters)	45 feet (13.7 meters)
5	15418	B	At 2205, you are in Thimble Shoal North Auxiliary Channel abeam of lighted gong buoy "4". At this time the visibility decreases to 5 miles. You continue to turn RPMs for 6 knots and experience no set and drift. What time would you expect Old Point Comfort Light (white sector) to become visible?	2230	2240	2246	2258
5	15419	A	The mean high water level at Old Point Comfort is _____.	2.6 feet (0.8 meters)	1.2 feet (0.4 meters)	0.0 feet	-3.5 feet (-1.1 meters)
5	15420	D	You are entering Norfolk Harbor and have just passed Craney Island. Which chart should you use for your final approach into Norfolk Harbor?	12223	12238	12248	12253
5	15429	D	What is the vertical clearance of the Vicksburg Highway 80 Bridge when the river level is the same as the Low Water Reference Plane? The low water reference plane (LWRP) for Vicksburg, MS. is 0.1.	128.3 ft	125.6 ft	119.5 ft	116.1 ft
5	15438	A	At 2038 you are on course 272°T when you take the following loran readings:  9960-X-27087.2 9960-Y-41234.6 9960-Z-58573.6  Based on this fix, which statement is TRUE?	You are inside a ten fathom depth curve.	You are less than five miles from Chesapeake Light.	You are 0.6 mile north of a wreck.	You are inside the contiguous zone.

5	15439	A	What is your ETA off Chesapeake Bay Entrance Buoy "CB" at the entrance to the inbound lane of the traffic separation scheme?	2058	2104	2109	2115
5	15440	D	Your ETA at Chesapeake Bay Bridge and Tunnel between trestles B + C is 2300. If your engine speed is 9.8 knots, what will be your approximate speed over the ground, at that time, allowing for the predicted current?	7.0 knots	8.2 knots	11.4 knots	12.5 knots
5	15441	C	At buoy "CB" you change course to follow the inbound traffic lane. What is the course to steer per gyro compass if you correct your heading for a current of 315° at 1.0 knot and allow 3° leeway for northeasterly winds?	297°pgc	299°pgc	302°pgc	305°pgc
5	15442	B	At 2216 CBJ Buoy is close abeam to port. Your lookout reports several sound signals with their relative bearings. Which would you judge to be coming from a vessel?	A bell, broad on the port bow	A whistle, broad on the starboard beam	A bell, dead ahead	A gong, two points on the starboard quarter
5	15443	B	As you enter Chesapeake Bay, visibility improves. At 2235 you are between Chesapeake Channel Buoys "5" and "6" in the 41 foot dredged section of Chesapeake Channel. At that time, you change course to pass between buoys "9" and "10". If buoys "11" and "12" are extinguished, your best leading light to keep you in deep water in the Chesapeake Channel, as you approach the Chesapeake Bay Bridge and Tunnel, would be _____.	fixed red light on trestle "C"	fixed green light on trestle "B"	fixed red light on trestle "B"	Thimble Shoal Light
5	15444	A	At 2306, as you pass through Trestle "C", you take a gyro bearing of the trestle when it is in line. The bearing is 049.0°. What is the gyro error?	0°	1.5°E	1.0°W	2.5°W
5	15445	D	As you proceed up York Spit Channel, what are the three base courses that you must steer to conform to the channel, if steering by standard magnetic compass?	337.5°, 359.5°, 028.0°	337.5°, 357.5°, 026.0°	324.0°, 352.5°, 009.5°	340.0°, 000.5°, 025.0°
5	15446	B	You are abeam of buoy "18" at 2325. What is your ETA at Baltimore if you average 9.5 knots?	1342	1400	1424	1456

5	15456	B	On 25 February, your vessel is berthed near Lamberts Point in Norfolk. You are preparing to sail for Baltimore and wish to be transiting York Spit Channel while the morning flood current is at its maximum speed. At what time should you be between buoys "33" and "34"? And, what will be the speed of the flood at this time?	0513, 0.8 k	0810, 1.2 k	0810, 1.5 k	1124, 1.2 k
5	15457	D	What is the distance from Lamberts Point to Thimble Shoal Lt.?	9.0 miles	9.8 miles	10.6 miles	11.2 miles
5	15458	C	You are delayed in sailing due to engineering problems. You get underway at 0630. A Coast Guard radio broadcast advises that an aircraft carrier will transit the Elizabeth River enroute Norfolk Naval Shipyard and a safety zone is in effect. Further information on how far you must remain from the carrier found is in _____.	PUB 117	Light List	Coast Pilot	Chart Number 1
5	15459	A	At 0823, Old Point Comfort Light bears 000°T at 0.6 mile. What is your 0823 position?	LAT 36°59.5'N, LONG 76°18.4'W	LAT 36°59.0'N, LONG 76°21.6'W	LAT 36°59.0'N, LONG 76°19.6'W	LAT 36°55.5'N, LONG 76°18.6'W
5	15460	A	At 0845, you are approaching the entrances to Thimble Shoal Channel. What channel must you use?	The South Auxiliary Channel since your draft is less than 25 feet (7.6 meters), and you are not a passenger vessel.	The South Auxiliary Channel or Thimble Shoal Channel, but you must remain on the right hand side of the main channel.	The North Auxiliary Channel since you are going to turn to a northerly heading near buoy "12".	You are not permitted to use any of the channels, but must remain outside the buoyed channel line.
5	15461	C	At 0908, you change course to 010°T. What course should you steer per standard magnetic compass?	003°	017°	021°	359°
5	15462	D	Visibility has decreased to 1 mile in haze. At 0948, you take the following radar ranges. What course should you steer per gyrocompass from this fix to enter the channel between buoys "19" and "20"?  Thimble Shoal Light - 5.9 miles South end of trestle C of the Chesapeake Bay Bridge and Tunnel - 3.8 miles South end of trestle B of the Chesapeake Bay Bridge and Tunnel - 5.4 miles	001°pgc	004°pgc	007°pgc	010°pgc

5	15463	C	If you are making 10 knots, what is your ETA at York Spit Channel Buoys "19" and "20"?	0959	1002	1006	1011	
5	15464	C	What is the course per standard magnetic compass on the southern leg of York Spit Channel between buoys "15" and "23"?	319°	322°	339°	341°	
5	15465	B	What is indicated by the dashed magenta line crossing York Spit Channel between buoys "20" and "22"?	You are crossing the demarcation line between the COLREGS and the Inland Rules.	The line marks the limits of a regulated area.	The line indicates a submarine cable, and you should not anchor in the area.	It marks the range between Hampton Roads and Cherrystone Channel.	
5	15466	C	At 1015, you estimate you have 139 miles to complete the voyage. If you average 9.5 knots, you will complete the voyage in _____.	14 hours 22 minutes	14 hours 30 minutes	14 hours 38 minutes	14 hours 44 minutes	
5	15467	B	At 1018, you are entering York Spit Channel and buoy "19" is abeam to starboard. At 1031, buoy "23" is abeam. What speed are you making good?	8.4 knots	8.8 knots	9.7 knots	9.9 knots	
5	15468	D	Which loran line of position will serve as a danger reading on the loran to keep you west of the submerged obstruction at LAT 37°24.2'N, LONG 76°03.7'W, after you leave York Spit Channel?	Not less than 9960-Z-58622	Not more than 9960-Y-41595	Not less than 9960-Y-41595	Not less than 9960-X-27246	
5	15469	B	At 1037, you are on course 010°T at 10 knots, when you take the following loran readings:  9960-X-27243.8 9960-Y-41497.6 9960-Z-58575.9  What is your 1037 position?	LAT 37°15.9'N, LONG 76°07.1'W	LAT 37°16.1'N, LONG 76°07.4'W	LAT 37°16.2'N, LONG 76°07.8'W	LAT 37°16.3'N, LONG 76°07.2'W	
5	15470	D	At 1119, Wolf Trap Light bears 268°T at 4.4 miles by radar. What were the set and drift since your 1037 fix?	178°, 0.5 knot	358°, 0.5 knot	178°, 0.7 knot	358°, 0.7 knot	

5	15506	C	<p>You are underway in the vicinity of Block Island and obtain the following lines of position:</p> <p>Montauk Point Light 263°pgc Block Island Southeast Light 026°pgc Radar Bearing to Block Island Southwest Point 348°pgc</p> <p>What is your position at the time of these sightings?</p>	LAT 41°05.0'N, LONG 71°36.2'W	LAT 41°05.1'N, LONG 71°36.0'W	LAT 41°05.3'N, LONG 71°35.8'W	LAT 41°05.4'N, LONG 71°35.5'W	
5	15507	D	<p>What course should you steer by your standard magnetic compass to make good a course of 280°T?</p>	266°psc	272°psc	290°psc	294°psc	
5	15508	C	<p>From your position you observe a rotating white and green light to the north. This light is most likely _____.</p>	from a submarine on the surface	the light at Southeast Point	at an airport	on a coastal patrol vessel	
5	15509	A	<p>At 1800, your position is LAT 41°06.5'N, LONG 71°43.5'W. How would the buoy which bears approximately 040°T from your position at a range of half a mile be painted?</p>	Horizontally banded, green over red, with a green buoyancy chamber	Horizontally banded, red over green, with a red buoyancy chamber	Vertically striped, red and green	Solid green with red letters "BIS"	
5	15510	B	<p>From your 1800 position you steer a course of 350°psc at a speed of 10.0 knots. At 1830, your position is LAT 41°11.7'N, LONG 71°45.8'W. What are the set and drift of the current?</p>	029°T, 0.7 knot	029°T, 1.4 knots	209°T, 0.7 knot	209°T, 1.4 knots	
5	15511	D	<p>From your 1830 fix, you come left to a course of 290°T. Which of the following statements concerning Watch Hill Light is FALSE?</p>	The nominal range of its white light is 15 miles.	It displays both red and white lights.	Its horn blasts every 30 seconds in fog.	Its geographic range is 18.5 miles at a 35 foot (10.7 meter) height of eye.	
5	15512	B	<p>At 1850, you obtain the following bearings and distances:</p> <p>Montauk Point 189°pgc 8.7 miles Watch Hill Light 340°pgc 5.7 miles</p> <p>What true course did you make good between 1830 and 1850?</p>	289°T	294°T	299°T	307°T	

5	15513	D	If your height of eye is 35 feet (10.7 meters), what is the approximate geographic range of Block Island North Light?	7.4 nm	13.0 nm	14.3 nm	15.8 nm
5	15514	A	From your 1850 fix, you come left to a course of 280°T, while maintaining a speed of 10 knots. Which of the following combinations of available Loran-C lines would give the best cross for position determining?	9960-Y and 9960-W	9960-X and 9960-Y	9960-W and 9960-X	All are equally good.
5	15515	D	You decide to use the 9960-Y and 9960-W rates. At 1915, you obtain the following readings:  9960-Y-43936.0 9960-W-14653.3  What is your 1915 position?	LAT 41°13.0'N, LONG 71°54.0'W	LAT 41°13.1'N, LONG 71°53.9'W	LAT 41°13.2'N, LONG 71°54.3'W	LAT 41°13.2'N, LONG 71°53.7'W
5	15516	D	If you were to head into Fishers Island Sound, which of the following charts would you switch to for better detail of Mystic and Mystic Harbor?	13209	13212	13213	13214
5	15517	C	From your 1915 position, you come left and set a course for Gardiners Point. At 1930, your position is LAT 41°12.7'N, LONG 71°56.8'W. What type of bottom is charted at this position?	Blue mud, gritty shells	Buried mussels, gritty shells	Blue mud, gray sand	Bumpy muck with grainy surface
5	15518	B	From your 1930 position, you plot a course to pass 0.5 mile due south of Race Rock Light. If your vessel's speed is 10.0 knots, the current's set and drift are 040°T at 1.8 knots, and a north wind produces a 3° leeway, what true course should you steer to make good your desired course?	275°T	280°T	290°T	294°T
5	15519	A	As an option to heading into Long Island Sound, you consider anchoring in the vicinity of the Gardiners Point Ruins approximately one mile off the north end of Gardiners Island. What is the minimum recommended distance from the ruins for fishing, trawling, or anchoring?	300 yards (91 meters)	1.0 mile	0.5 mile	No distance is prescribed since any such activities in the area are prohibited.

5	15520	D	NOAA VHF-FM weather broadcasts from New London, CT are on _____.	162.25 MHz	162.30 MHz	162.40 MHz	162.55 MHz	
5	15538	A	<p>At 2127 you take the following round of bearings:</p> <p>Old Field Point Light 224.0°pgc Middle Ground Light 320.5°pgc Stratford Point Light 348.0°pgc</p> <p>Based on the above fix, which statement is TRUE?</p>	At 2127, your fathometer reads about 17 fathoms.	You are south of Mt. Misery Shoal.	By following loran line 9960-Y-4395O, you will have safe water to the eastern tip of Great Gull Island.	You have lost sight of the red light at Old Field Point.	
5	15539	C	At 2127 you are on course 076°T. What is your ETA at a position where Twenty Eight Foot Shoal Lighted Bell Buoy "TE" is abeam to port?	2316	2324	2332	2345	
5	15540	B	<p>At 2200 you take the following loran readings:</p> <p>9960-W-15064.5 9960-Y-43954.8</p> <p>Which statement is TRUE?</p>	The current is flooding.	You are being set to the left of the track.	The set is towards the southwest.	The drift is 0.6 knot.	
5	15541	C	You alter course to make good 076°T from your 2200 fix, and estimate you will make 13.6 knots over the ground. If the visibility is 5.5 miles, what is the earliest time you will sight Falkner Island Light? (nominal range 13 miles)	The light is visible at 2200	2221	2236	You will not sight the light	
5	15542	D	At 2214 you receive a "Securite" call requesting you to remain at least 2 miles away from underwater work taking place at LAT 41°07.8'N, LONG 72°34.6'W. If you change course at 2220 and allow 3° leeway for southerly winds which course will you steer per gyrocompass to comply with this request? No allowance made for current.	079°pgc	083°pgc	086°pgc	089°pgc	

			At 2236 you take the following loran readings:  9960-W-14994.6 9960-X-26455.2 9960-Y-43949.0					
5	15543	B	What was the speed made good along the track line since your 2200 fix?	12.7 knots	13.5 knots	13.9 knots	14.2 knots	
5	15544	C	At 2310 your position is LAT 41°05.5'N, LONG 72°33.7'W and you change course to make good 068°T. A radar speed check using Twenty Eight Foot Shoal Buoy indicates your speed over the ground is 13.6 knots. At 2325 Horton Point Light bears 129°T. At 2341 the same light bears 194°T. What is the position of your 2341 running fix?	LAT 41°07.9'N, LONG 72°25.9'W	LAT 41°08.3'N, LONG 72°25.8'W	LAT 41°08.5'N, LONG 72°25.6'W	LAT 41°08.8'N, LONG 72°25.2'W	
5	15545	D	At 2342 the gyro alarm sounds and you commence steering by standard magnetic compass. If you allow 3° leeway for southerly winds and do not correct for any existing current, what is the course to steer by standard magnetic compass to make good 068°T?	054.0°	079.5°	081.0°	084.5°	
5	15546	A	At 2350 the gyro is restored to service. At 0016 the visibility improves. At 0028 you sight Bartlett Reef Light in line with New London Harbor Light bearing 039°pgc. What is the gyro error?	2°E	0°	2°W	4°W	
5	15560	A	In clear weather, you will lose sight of Point Judith Light at what distance?	14.0 nm	12.6 nm	10.3 nm	9.2 nm	
5	15561	A	At what time will you cross the 60 foot curve if you make good 12 knots?	0527	0534	0541	0544	
5	15562	B	The two wavy magenta lines running to Green Hill Point represent _____.	recommended approaches to Green Hill Point	submarine cables	prohibited fishing areas	fish trap areas	
5	15564	D	What was the current between 0520 and 0600?	178° at 0.8 knot	178° at 1.2 knot	358° at 0.8 knot	358° at 1.2 knots	
5	15565	D	From your 0600 position, what is the course per gyrocompass to leave Watch Hill Light abeam to starboard at 2.0 miles if a southerly wind is producing 3° of leeway?	251°pgc	254°pgc	257°pgc	261°pgc	

			At 0520 you take the following observations:  Point Judith Light                   036°pgc Point Judith Harbor of Refuge Main Breakwater Center Light 312°pgc					
5	15566	A	What is the position of your 0520 fix?	LAT 41°20.8'N, Long 71°29.7'W	LAT 41°20.8'N, Long 71°30.0'W	LAT 41°20.6'N, Long 71°30.0'W	LAT 41°20.5'N, Long 71°29.8'W	
5	15567	D	Point Judith Harbor of Refuge _____.	is used mostly by towing vessels	has a maximum depth of 14 feet (4.3 meters) at MHW	West Gap has a controlling depth of 24 feet	is entered through the East Gap or the West Gap	
5	15568	B	At 0520, you are on course 243°pgc at 12 knots. What is the course per standard magnetic compass?	262°psc	258°psc	233°psc	227°psc	
5	15569	C	The coastline between Point Judith and Watch Hill is _____.	marked by waterfalls from the highland ponds	low and marshy	sandy and broken by rocky points	heavily forested	
5	15606	A	Your 1600 position is LAT 37°22.5'N, LONG 75°32.3'W. The depth of water under the keel is about _____.	38 feet (11.5 meters)	45 feet (13.6 meters)	52 feet (15.8 meters)	59 feet (17.3 meters)	
5	15607	B	If there is no current, what is the course per gyro compass from your 1600 position to point A located 0.5 mile due east of Hog Island Lighted Bell Buoy "12"?	190°pgc	193°pgc	196°pgc	199°pgc	
5	15608	C	At 1630, you reach point A and come right to 204°T. Your engine speed is 12 knots. Your 1715, position is LAT 37°09.8'N, LONG 75°37.4'W. The current was _____.	067°T at 1.1 knots	246°T at 1.1 knots	067°T at 1.5 knots	246°T at 1.5 knots	
5	15609	A	From your 1715 fix, you steer 214°T at 12 knots. At 1800, you take a fix using the following Loran-C readings:  9960 - X - 27116.8 9960 - Y - 41386.0 9960 - Z - 58620.6  Your 1800 position is _____.	LAT 37°02.9'N, LONG 75°43.1'W	LAT 37°02.9'N, LONG 75°43.9'W	LAT 37°03.0'N, LONG 75°43.3'W	LAT 37°03.1'N, LONG 75°42.8'W	

5	15610	D	At 1815, your position is LAT 37°01.0'N, LONG 75°42.7'W. If there is no current, what is the course per standard magnetic compass to arrive at a point 0.3 mile due north of North Chesapeake Entrance Lighted Whistle Buoy "NCA" (LL#375)?	249.0°	251.5°	255.0°	257.0°
5	15611	D	From your 1815 position, you want to make good a course of 263°T. Your engines are turning RPM's for 12 knots. The current is 050°T at 1.9 knots. Adjusting your course for set and drift, at what time should you expect to enter the red sector of Cape Henry Light?	1849	1854	1859	1904
5	15612	C	At 1920, Cape Henry Light bears 225°pgc, and Chesapeake Channel Tunnel North Light bears 288°pgc. If your heading is 268°T, what is the relative bearing of Chesapeake Light?	194°	205°	213°	220°
5	15613	A	Which statement concerning your 1920 position is TRUE?	You are entering a restricted area.	You are governed by the Inland Rules of the Road.	You are within the Chesapeake Bay Entrance traffic separation scheme.	You can expect differences of as much as 6° from the normal magnetic variation of the area.
5	15614	B	From your 1920 position, you change course to enter Chesapeake Channel between buoys 9 and 10. What is the course per standard magnetic compass (psc) ?	286°psc	283°psc	280°psc	274°psc
5	15615	A	At 2000, your position is LAT 37°04.1'N, LONG 76°05.6'W. You change course for the Eastern Shore. At 2037, Old Plantation Flats Light bears 033°pgc, and York Spit Light bears 282°pgc. The course made good from your 2000 position is _____.	359°T	006°T	014°T	020°T
5	15616	D	At 2037, you change course to make good a course of 016°T. There is no current, but a westerly wind is causing 3° leeway. What course per standard magnetic compass (psc) should you steer to make good the course 016°T?	031°psc	028°psc	025°psc	022°psc

5	15617	A	Your height of eye is 25 feet (7.6 meters). If the visibility is 5.5 nautical miles, what is the luminous range of Wolf Trap Light?	7.5 miles	12.0 miles	16.0 miles	17.0 miles	
5	15618	B	If you want a more detailed chart of the area at your 2115 DR position, which chart should you use?	12222	12224	12225	12238	
5	15619	D	At 2123, your position is LAT 37°20.0'N, LONG 76°03.0'W. What is your distance offshore of Savage Neck?	4.3 miles	3.4 miles	2.6 miles	1.7 miles	
5	15620	B	From your 2123 position, you are approximately 42 miles from Crisfield, MD. If you are making good a speed of 13 knots, at what time should you arrive at Crisfield, MD?	2359	0037	0112	0148	
5	15621	C	What is the length of the trip?	899.6 miles	878.9 miles	851.9 miles	726.0 miles	
5	15622	A	What are the dimensions of the Old River Lock on the Lower Old River (304 AHP)?	1190 x 75 feet	1195 x 75 feet	1195 x 84 feet	1202 x 84 feet	
5	15623	A	At 2126, you pass Morganza Bend Light (mile 278.4 AHP). At 0122, 4 January, you pass Red River Landing Gage (302.4 AHP). You have been turning for 7.5 mph. What is the current?	1.4 MPH	1.8 MPH	2.7 MPH	6.2 MPH	
5	15624	B	The Gage at Red River Landing reads 22.2 feet. The low water reference plane for Red River is 10.6 feet. How many feet is this above the low water reference plane?	10.6 ft	11.6 ft	22.2 ft	32.8 ft	
5	15625	B	The river will be temporarily closed to navigation at mile 531.3 AHP due to repairs to the bridge. This will occur at 1300, 5 January, and last for six hours. What minimum speed over the ground must you make from Red River Landing Gage in order not to be delayed?	6.0 mph	6.4 mph	6.8 mph	7.3 mph	
5	15626	C	What type of daymark will you see as you approach Joe Pierce Light (mile 335.4 AHP)?	Private aid - no daymark	Red square	Red triangle	Red diamond	
5	15627	C	What is the vertical clearance of the Natchez Highway Bridge (westbound) when the river level is the same as the Low Water Reference Plane (6.1 ft)?	102.2 ft	108.3 ft	119.4 ft	125.6 ft	

5	15628	A	The Natchez Gage reads 20.6 feet. The high point on your towboat is 47 feet above the water. What is the vertical clearance as you pass under the Natchez Highway Bridge?	58.0 feet	64.1 feet	72.5 feet	78.6 feet
5	15629	C	In order to determine what buoys, if any, are in place at Concordia Bar crossing (mile 596.0 AHP), what should you check?	Bulletin board at the Rosedale Gage	Waterways Journal	Notice to Mariners	Light List
5	15630	C	The area between Island 67 Upper Light (mile 623.1 AHP) and Sunflower Cut-off Foot Light (mile 624.8 AHP) is known as a _____.	transit	chute	crossing	slough
5	15638	C	At 2009 you are leaving New London Harbor with buoy "2" close abeam to port. What is the true course to the Race that will leave Race Rock Light 0.5 mile abeam to port?	156°	160°	164°	168°
5	15639	A	At 2016 you sight N. Dumpling Light in line with Latimer Reef Light (Fl 6 sec, 55 ft) bearing 079°pgc. At the time of the bearing the helmsman reported he was steering 164° pgc and 172° per standard magnetic compass. What is the deviation for that heading?	3°E	1°E	5°W	2°W
5	15640	B	At which point in the voyage is your vessel bound by the International Rules of the Roads (COLREGS)?	At the mouth of New London Harbor	Upon entering Block Island Sound	After crossing the line of the Territorial Sea	After passing between Montauk Point and Lewis Point on Block Island
5	15641	A	You will pass through the Race at approximately the time of maximum ebb current. As you APPROACH the Race from New London, you will be set _____.	to the left of the track line	to the right of the track line	forward along the track line	towards New London along the track line
5	15642	D	At 2030 you take the following radar ranges:  Race Rock Light 2.1 miles Latimer Reef Light 6.4 miles  If you estimate an average current of 080°T at 1.5 knots, which course will you steer per gyrocompass to leave Endeavor Shoals Gong Buoy bearing 270°T at 1.5 miles?	115°	118°	124°	127°

5	15643	D	The light on Block Island Sound South Entrance Obstruction Buoy "BIS" is reported extinguished. Which of the following will serve as a positive warning that you are being set onto the obstruction?	Radar ranges to Southwest Point of less than 7.9 miles	Soundings of less than 50 feet	Shagwong Reef Lighted Bell Buoy "7SR" 3.1 miles off abeam	Race Rock Light bearing 299°T and decreasing	
5	15644	A	At 2045 visibility decreases in fog, and at 2103 you take the following loran fix:  9960-W-14658 9960-X-26012.5 9960-Y-43904  Determine your 2103 fix.	LAT 41°09.2'N, LONG 71°52.5'W	LAT 41°09.1'N, LONG 71°52.2'W	LAT 41°09.0'N, LONG 71°52.9'W	LAT 41°08.8'N, LONG 71°52.5'W	
5	15645	B	You round Montauk Point and steer to make good 206°T. Speed is increased to 13.0 knots. The current, if any, is unknown. The visibility has improved and is estimated to be 5 miles. At 2144 Montauk Point Light bears 273°T. At 2202 the same light bears 320°T. Which statement concerning your 2202 running fix is TRUE?	You are inside the lobster pot area.	The fathometer reads about 12 fathoms.	You are inside of the 90 foot curve.	You are outside the boundary of the Territorial Sea and Contiguous Zone.	
5	15646	C	At 2229 the gyro fails. What is the course to steer per standard magnetic compass to make good 206°T, if you allow 3° leeway for southeasterly winds?	187°	191°	217°	220°	
5	15656	D	At 0630, Buoy "PI" is close abeam on the starboard side. You are steering 078°T and are headed directly toward Race Rock Light. At 0654, Little Gull Island Light is bearing 210°pgc and Race Rock Light is bearing 075°pgc. What is your 0654 position?	LAT 41°19.0'N, LONG 72°05.2'W	LAT 41°14.4'N, LONG 71°54.6'W	LAT 41°14.2'N, LONG 72°06.8'W	LAT 41°14.0'N, LONG 72°05.3'W	
5	15657	B	What was the course made good from 0630 to 0654?	078°T	082°T	086°T	090°T	
5	15658	D	What course should you steer by the standard magnetic compass in order to maintain a heading of 081°pgc?	062°psc	080°psc	090°psc	095°psc	
5	15659	A	At 0705, you change course to 096°T. At this time, Race Rock Light is bearing 000°T at 0.35 mile. You are now governed by which Navigation Rules?	COLREGS	Local Pilot Rules	Inland Rules	Coastal Fishery Rules	

5	15660	C	At 0728, Race Rock Light is bearing 282°T at 3.8 miles, and the closest point on Fishers Island has a radar range of 2.1 miles. What speed have you been making since you changed course at 0705?	11.2 knots	10.8 knots	9.6 knots	9.1 knots
5	15661	D	At 0727, the cupola on Fishers Island is in line with Latimer Reef Light bearing 024°pgc. Based on this, the gyro error is _____.	2°E	1°E	0°	3°W
5	15662	D	At 0748, you take the following Loran-C readings:  9960-W-14651.0 9960-X-26034.8 9960-Y-43943.8  What is the approximate depth of water under the keel at this position?	325 feet (98.5 meters)	175 feet (53.0 meters)	130 feet (39.4 meters)	112 feet (33.9 meters)
5	15663	A	At 0748, you change course to 160°T. Which loran reading will insure you clear Great Eastern Rock?	Nothing more than 9960-W-14645	Nothing more than 9960-X-25970	Nothing more than 9960-Y-43850	Nothing more than 9960-Y-43960
5	15664	C	At 0815, Montauk Pt. Light House is bearing 172°T, Shagwong Pt. has a radar range of 4.5 miles. If the engine was making turns for 10 knots, what was the current since 0748?	Set 040°T, drift 0.7 knots	Set 040°T, drift 1.6 knots	Set 220°T, drift 1.6 knots	Set 220°T, drift 0.7 knots
5	15665	B	Which action should you take to compensate for the above current?	Continue on the same course and speed.	Alter your course to the left.	Slow to 8.5 knots.	Alter your course to the right.
5	15666	C	At 0815, visibility is excellent and you can see Montauk Point. Montauk Point Light is _____.	shown from a brown tower	equipped with a fog diaphone	lighted 24 hours	is 79 feet (24 meters) high
5	15667	D	At 0815, you change course to 079°T. To compensate for a southerly wind, you estimate a 3° leeway is necessary. Which course should you steer per standard magnetic compass to make good 079°T?	090°psc	093°psc	095°psc	099°psc
5	15668	B	At 0839, Montauk Pt. Light is bearing 205°T at a radar distance of 6.6 miles. What is your speed made good from your 0815 position?	8.2 knots	9.2 knots	10.0 knots	10.5 knots

5	15669	C	The area between Block Island and Montauk Point that is bounded by dashed magenta lines is a _____.	naval exercise area	fish trap area	submerged cable area	restricted navigation area	
5	15670	D	Which chart should you use to enter Great Salt Pond?	13204	13205	13207	13217	
5	15706	C	At 0700, Stratford Shoal Middle Ground Light bears 137° pgc. From your radar, you get a bearing of 007°pgc to the south tip of Stratford Point with a range of 4.5 miles. What is your 0700 position?	LAT 41°04.6'N, LONG 73°07.0'W	LAT 41°04.6'N, LONG 73°07.4'W	LAT 41°04.7'N, LONG 73°07.2'W	LAT 41°04.8'N, LONG 73°07.0'W	
5	15707	A	At 0725, you are heading 054°T, and Stratford Point Light is abeam to port at 3.1 miles. The current is 135°T at 1.8 knots. If you make turns for an engine speed of 8 knots, which course must you steer to make good 048°T.	035°T	042°T	047°T	055°T	
5	15708	B	Which structure should you look for while trying to locate Southwest Ledge Light?	White conical tower with a brown band midway of height	White octagonal house on a cylindrical pier	Conical tower, upper half white, lower half brown	Black skeleton tower on a granite dwelling	
5	15709	D	At 0830, you obtained the following Loran-C readings:  9960-X-26562.5 9960-Y-44028.1  What is your vessel's position?	LAT 41°12.4'N, LONG 73°56.0'W	LAT 40°17.4'N, LONG 73°54.0'W	LAT 41°12.0'N, LONG 72°53.8'W	LAT 41°12.4'N, LONG 72°53.8'W	
5	15710	B	From your 0830 position, you wish to make good 097°T. There is no current, but a southerly wind is producing 3° leeway. What course should you steer per standard magnetic compass in order to make good your true course?	118°psc	115°psc	112°psc	109°psc	
5	15712	D	At 0910, your DR position is LAT 41°11.9'N, LONG 72°47.8' W. Your vessel is on course 097°T at 9.5 knots, and the weather is foggy. At 0915, Branford Reef Light is sighted through a break in the fog bearing 318°T. At 0945, Falkner Island Light is sighted bearing 042°T. What is your 0945 running fix position?	LAT 41°11.1'N, LONG 72°41.2'W	LAT 41°11.3'N, LONG 72°41.3'W	LAT 41°11.4'N, LONG 72°41.0'W	LAT 41°11.5'N, LONG 72°40.7'W	

5	15713	C	What do the dotted lines around Goose Island and Kimberly Reef represent?	Limiting danger	Breakers	Depth contours	Tide rips	
5	15714	A	At 1100, your position is LAT 41°11.3'N, LONG 72°28.0'W. You are steering a course of 069°T to leave Black Point one mile off your port beam. It has been reported that the Long Sand Shoal Buoys and Hatchett Reef Buoys are off station. Which of the following will serve as a line marking the hazards and keep your vessel in safe water?	Danger bearing to Black Point of not more than 064°T	A Loran reading of more than 9960-Y-43985.0	A bearing to Little Gull Island Light of not less than 090°	A distance to Saybrook Breakwater Light of not less than 1.3 miles	
5	15715	C	Little Gull Island Light is _____.	lighted only during daytime when the sound signal is in operation	maintained only from May 1 to Oct 1	lighted throughout 24 hours	obscured by trees from 253° to 352°	
5	15716	A	At 1210, you are in position LAT 41°14.3'N, LONG 72°16.5'W. What is the depth of water below your keel?	97 feet (29.4 meters)	108 feet (32.7 meters)	119 feet (36.1 meters)	125 feet (37.9 meters)	
5	15717	B	From your 1210 position, you are steering a course of 083° T. Your engines are turning RPMs for 10 knots. The set and drift of the current are 310° at 1.7 knots. At what time should you expect to enter the red sector of New London Harbor Light?	1241	1249	1256	1309	
5	15718	A	Your vessel is entering New London Harbor Channel. If there is no current, what should you steer per gyro compass to stay on the range?	351°	354°	357°	006°	
5	15719	A	On chart 12354, the datum from which heights of objects are taken is _____.	mean high water	mean low water	lowest low water	mean lower low water	
5	15720	B	The red sector of New London Harbor Light covers from _____.	040° - 310°	000° - 041°	208° - 220°	204° - 239°	
5	15721	A	You are turning for 7.8 mph and estimate the current at 1.0 mph. What is your speed over the ground?	8.8 mph	7.9 mph	7.8 mph	6.8 mph	
5	15722	B	What is your ETA at the Memphis Highway Bridge?	0828, 22 Sept	1052, 22 Sept	1405, 22 Sept	1813, 22 Sept	
5	15723	D	What daymark should you see as you approach Parker Landing Light (mile 924.6 AHP)?	Green square	Green triangle	Red and green rectangle	Green diamond	
5	15724	C	You pass Morrison Towhead Light (mile 890.5 AHP) at 1723. What was your average speed since leaving Cairo?	7.5 mph	7.8 mph	8.5 mph	8.8 mph	

5	15725	C	At 1723 you increase speed to make good 9.2 mph. At 1937 you have a daymark on your port beam. What daymark is this?	Tiptonville Ferry Landing Daymark	Tiptonville Light	Merriwether Bend Light and Daymark	Alaska Light and Daymark	
5	15726	D	The charts show a circle with two black quadrants located at mile 846.0 AHP. What does this indicate?	Hazardous chemical dock	Bulletin Board	Betz-Tipton Veneers Terminal	River Gage	
5	15727	B	The Helena Gage reads 9.4 feet. The high point on your towboat is 46 feet above water. What is the vertical clearance when you pass under the Helena Highway Bridge?	56.0 feet	64.2 feet	79.5 feet	106.1 feet	
5	15728	A	What company does NOT have a marine facility along the river bank in Helena (mile 658 to 665 AHP)?	Helena Grain Co.	Helena Port Terminal, Inc.	Arkansas Power & Light Co.	Texas Eastern Pipeline Co.	
5	15729	D	If the Rosedale Gage reads -0.5 feet, what is the water level if the low water reference plane for Rosedale is 3.0 feet?	0.5 foot below the plane	0.5 foot above the plane	2.5 feet above the plane	3.5 feet below the plane	
5	15738	C	At 1830 you obtained the following Loran-C readings:  9960-W-14820.0 9960-X-26097.0 9960-Y-43713.5  What is your vessel's position?	LAT 40°41.0'N, LONG 72°06.0'W	LAT 40°41.0'N, LONG 72°10.6'W	LAT 40°42.5'N, LONG 72°07.1'W	LAT 40°47.5'N, LONG 72°02.9'W	
5	15739	B	Your 1900 position is LAT 40°45.5'N, LONG 72°03.0'W. Your course is 046°T, and your engines are turning RPM's for 9 knots. At your 1939 DR position, what is the expected relative bearing of Montauk Point Light on the port bow?	024° relative	028° relative	032° relative	036° relative	
5	15740	B	At 2000 Montauk Point Light bears 010°T. At 2030 the loran reads 9960-Y-43785.7. Assuming that you are making good your course of 046°T and a speed of 9 knots, what is your 2030 running fix position?	LAT 40°53.9'N, LONG 71°51.3'W	LAT 40°54.2'N, LONG 71°50.2'W	LAT 40°55.9'N, LONG 71°49.0'W	LAT 40°56.7'N, LONG 71°48.1'W	

5	15741	A	<p>At 2050 you obtain the following Loran-C readings:</p> <p>9960-X-25945 9960-Y-43802 9960-W-14662</p> <p>From this position, you change course in order to pass 1 mile due east of Montauk Point Lighted Whistle Buoy "MP". If there are no set and drift, what course must you steer?</p>	024°T	028°T	032°T	036°T	
5	15742	B	<p>At 2100 your position is LAT 40°58.5'N, LONG 71°46.0'W. You are proceeding north. At 2131 Montauk Point Light has a radar range of 5.1 miles and bears 284°T. Block Island Southeast Light has a radar range of 10.8 miles. What was the course made good from your 2100 position?</p>	005°T	011°T	017°T	025°T	
5	15743	A	<p>At 2155 Montauk Point Light bears 249°T, Watch Hill Point Light bears 335°T, and Block Island North Light bears 045°T. At this time, you wish to change course to 288°T. The current has a set of 355°T and a drift of 2.0 knots. If your vessel is turning RPM's for 9 knots, what course must you steer in order to make your desired course good?</p>	276°T	280°T	284°T	288°T	
5	15744	A	<p>Montauk Point Light has a radar range of 4.0 miles and bears 170°T at 2232. What is the depth of water below your keel?</p>	40 feet	60 feet	70 feet	80 feet	
5	15745	D	<p>Your 2239 position is LAT 41°08.5'N, LONG 71°53.3'W. You change course to 315°T, and you maintain RPM's for 9 knots. At 2329 Little Gull Island Light bears 253°T, Race Rock Light bears 309°T, and Watch Hill Point Light bears 058°T. What were the set and drift of the current you experienced from your 2239 position?</p>	076°T at 0.75 knot	076°T at 0.90 knot	256°T at 0.75 knot	256°T at 0.90 knot	
5	15746	C	<p>Which nautical chart would you use to navigate into New London, CT?</p>	13209	13211	13212	13214	

5	15756	A	<p>You are steering 087°pgc and turning for 6.8 knots. At 0600, you take the following loran readings:</p> <p>9960-W-14784.4 9960-X-26208.3 9960-Y-43959.1</p> <p>What is your 0600 position?</p>	LAT 41°12.1'N, LONG 72°13.8'W	LAT 41°12.1'N, LONG 72°14.6'W	LAT 41°12.3'N, LONG 72°14.7'W	LAT 41°12.5'N, LONG 71°14.9'W	
5	15757	B	<p>If you change course at 0610, what is the course to steer per gyro compass to a point where Little Gull Island Light bears 180°T at 0.7 mile (Point "A")?</p>	072°pgc	076°pgc	080°pgc	084°pgc	
5	15758	C	<p>What is your ETA at point "A"?</p>	0637	0643	0649	0700	
5	15759	A	<p>You calculate that the current will be flooding at the Race at 0700. You should expect to be set in which general direction at the Race?</p>	West	East	Northeast	Southwest	
5	15760	D	<p>As you near Little Gull Island, you use your loran to insure that you do not come within 0.5 mile of the island. Which loran reading will act as a danger line and keep you off Little Gull Island by a minimum of 0.5 mile?</p>	Not more than 9960-W-14735.9	Not more than 9960-X-26149.0	Not less than 9960-X-26140.0	Not less than 9960-Y-43953.5	
5	15761	C	<p>From point "A", you lay out an intended track line to a point where Block Island North Light bears 180°T at 2.9 miles (Point "B"). What is the length of this leg of the voyage?</p>	20.4 miles	23.7 miles	24.4 miles	25.3 miles	
5	15762	D	<p>What is the course per standard magnetic compass between points "A" and "B"?</p>	090.5°	093.0°	095.5°	098.5°	
5	15763	B	<p>At 0715, you take the following bearings:</p> <p>Race Rock Light      324°pgc Little Gull Island Light    245°pgc Mt. Prospect Antenna    034°pgc</p> <p>Based on your 0715 fix, which statement is TRUE?</p>	You are to the right of your track line.	The charted depth is about 265 feet (80.3 meters).	You are in a cable area.	You are governed by the Inland Rules.	

5	15764	B	<p>From your 0715 position, you set a course of 085°T. At 0745, you take the following bearings:</p> <p>Race Rock Light                    274°pgc  Watch Hill Point Light            045°pgc  Fisher's Island East Harbor Cupola 006°pgc</p> <p>What was the current encountered between 0715 and 0745?</p>	Set 030°T, drift 0.4 knot	Set 070°T, drift 0.7 knot	Set 210°T, drift 0.8 knot	Set 238°T, drift 1.0 knot	
5	15765	A	<p>The wind is northerly, and you estimate 3° leeway. Allowing for leeway what is the course to steer per gyro compass from your 0745 position to pass 1 mile south of Watch Hill Buoy "WH"?</p>	077°pgc	082°pgc	085°pgc	087°pgc	
5	15766	C	<p>From your 0745 fix, you change course to pass 1.0 mile south of buoy "WH" and estimate your speed at 7 knots. If the visibility clears, what is the earliest time you can expect to see Block Island North Light tower?</p>	The tower is in sight at 0745.	0750	0806	0838	
5	15767	B	<p>Which statement describes the shore between Watch Hill Point and Point Judith?</p>	Low, rocky cliffs with heavily wooded hills inland	Sandy beaches broken by rocky points	Sand dunes and beaches with a mud and sand bottom	Wooded, barren hills with isolated prominent buildings	
5	15768	A	<p>At 0830, Watch Hill Point bears 343°T at 3.5 miles by radar. What was the speed made good since 0745?</p>	7.1 knots	6.7 knots	5.8 knots	5.4 knots	
5	15769	D	<p>At 0900, you take the following radar ranges:</p> <p>Watch Hill Point                    5.4 miles  Block Island Grace Point 8.3 miles</p> <p>Which statement is TRUE?</p>	You are to the right of the track line.	The bottom in the area is sand and gravel.	You are inside of the Territorial Sea.	The fix is indeterminate.	
5	15770	B	<p>At 0930, your position is LAT 41°16.5'N, LONG 71°41.4'W, and you are turning for 7 knots. Allowing 3° leeway for northerly winds and estimating the current as 035° at 0.3 knot, what is the course to steer (pgc) to point "B"?</p>	084°pgc	086°pgc	091°pgc	094°pgc	

5	15799	C	At 0845, you are on a course of 097°T, and Townshend Ledge Buoy "10A" is close abeam to port. With a westerly current of 1.2 knots, what speed will you have to turn for from your 0845 position in order to arrive abeam of Six Mile Reef Buoy "8C" at 1030?	8.5 knots	9.7 knots	10.9 knots	12.1 knots
5	15806	D	What type of bottom is found at Long Sand Shoal?	Rocky	Muddy	Sandy	Hard
5	15807	A	You are southeast of Saybrook Breakwater Light passing Saybrook Bar Lighted Bell Buoy "8". This buoy marks _____.	shoal water	a tide rips area	the junction with the Connecticut River	a sunken wreck
5	15808	D	At 0005, on 26 January, your position is LAT 41°11.8'N, LONG 72°20.5'W. From this position, you plot a course to steer to a point one half mile north of Mattituck Breakwater Light "MI" with an engine speed of 9.0 knots. If there are no set and drift, what course should you steer?	207°psc	213°psc	220°psc	235°psc
5	15809	D	At 0045, you obtain the following bearings:  Rocky Point lookout tower 072°T Horton Point lighthouse 213°T  What were the set and drift between 0005 and 0045?	272°true, 0.9 knot	272°true, 1.4 knots	092°true, 0.9 knot	092°True, 1.4 knots
5	15810	B	You alter course from your 0045 position to head for a point 0.5 mile north of Mattituck Breakwater Light "MI". If the visibility is 10 miles and you make good 9 knots, at approximately what time will you lose sight of Saybrook Breakwater Light?	You have already lost sight at 0045	0055	0120	The light is visible all the way to Mattituck Inlet
5	15811	A	At 0100, you obtain the following bearings:  Rocky Point Lookout Tower 062°T Horton Point Lighthouse 189°T  What was the speed made good between 0045 and 0100?	7.4 knots	8.0 knots	8.7 knots	9.2 knots
5	15813	B	According to the DR track line from your 0100 position, how far off Roanoke Point Shoal Buoy "5" should you be when the buoy is abeam?	0.2 mile	0.6 mile	1.3 mile	1.8 miles

5	15814	A	<p>At 0130, you obtain the following bearings:</p> <p>Horton Point Lighthouse 078°T Mattituck Breakwater Light tower 196°T</p> <p>What were the course and speed made good between 0100 and 0130?</p>	246°T at 9.8 knots	253°T at 9.4 knots	259°T at 9.8 knots	267°T at 9.4 knots
5	15815	D	<p>From your 0130 position, you change course to adjust for set and drift, and you later obtain the following loran lines of position:</p> <p>9960-W-14975 9960-X-26412 9960-Y-43919</p> <p>What is the latitude and longitude of the loran fix?</p>	LAT 41°00.8'N, LONG 72°40.8'W	LAT 41°01.2'N, LONG 72°40.4'W	LAT 41°01.6'N, LONG 72°40.0'W	LAT 41°02.0'N, LONG 72°39.5'W
5	15816	C	<p>At 0209, your position is LAT 41°01.8'N, LONG 72°40.8'W.</p> <p>What course should you steer per standard magnetic compass to make good 278° magnetic? (assume no set and drift)</p>	262.0°psc	265.0°psc	275.5°psc	280.5°psc
5	15817	C	<p>The south coast of Long Island Sound between Mattituck Inlet and Port Jefferson is _____.</p>	composed of high rocky bluffs	a high, flat plateau with sheer cliffs	fringed by rocky shoals	low and marshy with isolated beaches
5	15818	A	<p>At 0300, your position is LAT 41°01.7'N, LONG 72°55.1'W. From this position you steer a course of 289° per standard magnetic compass at an engine speed of 10.0 knots. At what time can you first expect to see Stratford Shoal Middle Ground Light if the luminous range is 8.0 miles?</p>	0303	0309	0312	0318
5	15819	A	<p>You must arrive at your final destination by 0800. The distance from your 0300 position to the final destination is 40.5 miles. What minimum speed must be made good to arrive on time?</p>	8.1 knots	8.5 knots	9.3 knots	9.6 knots
5	15820	C	<p>You are northwest of Port Jefferson Harbor steering 242° per standard magnetic compass. As you continue westward, you see that the Port Jefferson Range Front Light and Rear Light come into line. If the deviation table is correct, the bearing of the range should be _____.</p>	140°psc	146°psc	157°psc	160°psc

5	15821	A	What is the distance from the Amoco Pipeline Co. Docks at Baton Rouge, LA, to the mouth of the Ohio River?	700.2 miles	727.9 miles	953.5 miles	981.5 miles	
5	15822	B	You are turning for 10 mph, approaching Angola, LA. Angola reports that the current at Red River Landing is estimated at 4.5 MPH. Which of the following statements is TRUE?	You are making 14.5 mph over the ground.	You should expect to encounter vessels crossing the river at mile 300.5 AHP.	You would expect to find a more favorable current near the broken red line in the river.	Hog Pt. Light and Hog Pt. Lower Light may be used as range lights when entering Shreves cut-off.	
5	15823	A	As you approach Shreves cut-off you see Red River Landing Gage (302.4 AHP) which reads 6.2 feet. The Low Water Reference Plane (LWRP) for Red River is 10.6. Which of the following statements is TRUE?	This reading is at 4.4 ft. below the Low Water Reference Plane.	This reading is 6.2 ft. above the Low Water Reference Plane.	The depth of water at Red River Landing is 6.2 ft.	A vessel drawing 7 ft. would be able to pass through the locks at Lower Old River.	
5	15824	C	You pass Red River Gage at 2015 on 16 April and estimate the current will average 3.5 mph for the remainder of the time on the Mississippi River. What is your ETA at the mouth of the Ohio River if you continue to turn for 10 mph?	1445, 20 April	1830, 20 April	0028, 21 April	0821, 21 April	
5	15825	C	What is the vertical clearance between the highest point of your towboat, if it is 58 feet above the water, and if the Natchez Gage reads 28.13 feet when passing under the Natchez Upper Highway Bridge?	15.9 feet	33.2 feet	39.9 feet	45.4 feet	
5	15826	A	In high water conditions, which publication would you consult for the latest information on buoys between Baton Rouge and Cairo?	U.S.C.G. Local Notice to Mariners	U.S.C.G. Light List	Army Corps. of Engineers Navigation Chart	List of Buoys and Daymarks	
5	15827	C	As you approach Giles Bend Cutoff Light (mile 367.7 AHP), what type of daymark would you see on the light structure?	Green diamond	Green triangle	Red triangle	Red diamond	
5	15828	C	At 0305 on 18 April, you pass under the Greenville Bridge (mile 531.3 AHP). What was your average speed since departing Amoco Pipeline Co. Docks (mile 253.6 AHP)?	6.2 mph	6.5 mph	6.8 mph	7.2 mph	
5	15829	D	A stretch where the channel changes from one side of the river to the other is called a _____.	passing	transit	transfer	crossing	
5	15830	A	The black broken-line marking, across the river, that appears at mile 952.1 AHP represents a _____.	utility crossing	railroad	submarine crossing	revetment	

			At 2000 Loran readings give you the following information:  9960-X-27106 9960-Y-41639 9960-Z-58746					
5	15838	B	Your position is _____.	37°35.0'N, 75°32.2'W	37°23.5'N, 75°32.2'W	37°03.5'N, 75°32.2'W	37°03.5'N, 75°02.2'W	
5	15839	B	From your 2000 position you change course to 206°T. What time would you expect to be abeam of Hog Island Buoy "12"?	2021	2026	2031	2040	
5	15840	A	You should expect to pass how far off buoy "12"?	0.8 mile	1.2 miles	1.7 miles	2.1 miles	
			At 2030 you take the following bearings:  Sand Shoal Inlet South Light - 275°T Cape Charles Light - 235°T  You also obtained a Loran-C reading of 9960-Z-58702.					
5	15841	D	The set and drift from 2000 to 2030 are _____.	088° at 0.7 knot	088° at 1.4 knots	268° at 0.7 knot	268° at 1.4 knots	
			From your 2030 fix you change course to 195°T, and leave the engine speed at 14 knots. At 2045, Sand Shoal Inlet Buoy "A" bears 318° true, and you obtain the following Loran-C readings:  9960-X-27114 9960-Y-41516					
5	15842	A	Which statement is TRUE?	Cape Charles Light bears 050° relative.	Chesapeake Light bears 190° relative.	Your fathometer reading is approximately 40 fathoms.	Your vessel is located in a restricted area.	
5	15843	D	You continue to steer 195°T. You pass Cape Charles Lighted Bell Buoy "14", 0.9 miles abeam to starboard at 2111. Your speed made good from 2045 to 2111 is _____.	13.7 knots	14.1 knots	14.5 knots	14.8 knots	
5	15844	C	Your course made good from 2045 to 2111 is _____.	187°T	190°T	193°T	196°T	

5	15845	A	If you are going to head directly for Chesapeake Light from your 2111 fix, what is the course to make good?	190°T	193°T	196°T	199°T
5	15846	D	At 2200, you alter course to 204°T, at 14 knots. You expect a current on this leg of the trip, setting 325° at 1.5 knots. Which course should you steer per gyro compass to make good the true course?	184°pgc	190°pgc	194°pgc	201°pgc
5	15856	B	What type of bottom is found at Long Sand Shoal?	Rocky	Hard	Sandy	Muddy
5	15857	D	You are southeast of Saybrook Breakwater Light passing a horizontally-banded buoy. This buoy marks _____.	a sunken wreck	a tide rips area	the junction with the Connecticut River	shoal water
5	15858	B	At 0005, on 26 January, your position is LAT 41°11.8'N, LONG 72°20.5'W. From this position, you plot a course to a position one mile North of Mattituck Breakwater Light "MI". If there are no set and drift, what course should you steer per gyro compass?	219°pgc	222°pgc	225°pgc	228°pgc
5	15859	D	You are turning for 9 knots on course 230°T. At 0023, Horton Point Light bears 208°pgc. At 0053, Horton Point Light bears 126°pgc. What is the position of your 0053 running fix?	LAT 41°05.7'N, LONG 72°27.6'W	LAT 41°05.8'N, LONG 72°28.1'W	LAT 41°05.9'N, LONG 72°27.4'W	LAT 41°06.0'N, LONG 72°28.2'W
5	15860	C	At 0100, your position is LAT 41°05.3 N, LONG 72°29.2 W. You head for the position one mile north of Mattituck Inlet Light and turn to make good 9.0 knots. If the visibility is about 2 miles, at what approximate time will you sight the light?	The light is visible at 0100	0109	0120	0128
5	15861	D	At 0125, Mattituck Inlet Light bears 203°pgc at 2.1 miles. What is the approximate depth of the water under the keel?	46 fathoms (83.6 meters)	44 fathoms (80.0 meters)	43 feet (13.0 meters)	38 feet (11.5 meters)
5	15862	B	At 0125, you change course to make good 280°T. What is the course per standard magnetic compass?	290°psc	292°psc	294°psc	296°psc
5	15863	C	If the current is 050° at 0.9 knot, and a northerly wind causes 3° of leeway. What is the course to steer per gyro compass to make good 280°T if you are turning for 9 knots?	284°pgc	279°pgc	276°pgc	273°pgc

5	15864	A	At 0200, you take the following loran readings: 9960 - W - 14966.0 9960 - X - 26410.5 9960 - Y - 43933.9 What is the position of your 0200 fix?	LAT 41°03.9'N, LONG 72°38.9'W	LAT 41°03.8'N, LONG 72°39.1'W	LAT 41°03.7'N, LONG 72°38.5'W	LAT 41°03.5'N, LONG 72°38.8'W	
5	15865	A	From your 0200 position, you change course to 272°pgc. How far north of Stratford Shoal Middle Ground Light does this track pass?	2.1 miles	1.6 miles	1.3 miles	1.0 miles	
5	15866	B	What is your ETA at a point where Stratford Shoal Middle Ground Light bears 180°T if you make good 9.0 knots?	0409	0416	0425	0433	
5	15867	D	You anticipate a maximum flood current north of Stratford Shoal. You will be set in which general direction?	Northerly	Easterly	Southerly	Westerly	
5	15868	D	Stratford Shoal Middle Ground Light is _____.	13 foot high	a fixed white light	shown from a white tower	equipped with a HORN	
5	15869	A	After you raise Stratford Shoal Middle Ground Light, how will the bearings change if you pass to the north of the light?	The bearings will change to the left.	The bearings will remain steady.	The bearings will change to the right.	Magnetic compass bearings will change to the left and gyro compass bearings will change to the right.	
5	15870	C	What is the approximate distance from a point three miles south of Stratford Point to Perth Amboy, NJ?	53 miles	62 miles	73 miles	136 miles	
5	15906	C	As you enter the New Haven Outer Channel, you sight the range markers in line directly over the stern. Your heading at the time is 155.5° per gyrocompass. What is the gyro error?	1.0°E	1.0°W	2.0°W	0°	
5	15907	B	At 0720, you are in the outer channel between buoy "1" and buoy "2" and change course to pass Townshend Ledge Lighted Gong Buoy "10A" abeam to port at 200 yards. What is your ETA off the buoy?	0734	0738	0741	0745	

5	15908	C	<p>At 0740, you plot a loran fix from the following readings:</p> <p>9960-X-26542.0 9960-Y-44023.0 9960-W-15027.0</p> <p>What is your position?</p>	LAT 41°12.6'N, LONG 72°51.3'W	LAT 41°12.6'N, LONG 72°51.8'W	LAT 41°12.4'N, LONG 72°51.5'W	LAT 41°12.3'N, LONG 72°52.0'W	
5	15909	C	<p>From your 0740 position, you change course to pass 1.1 miles north of Falkner Island Light. What loran reading will ensure that you will remain clear of the 18' shoal located 1 mile NW of Falkner Island Light?</p>	9960 W: not less than 14942	9960 X: not more than 26452	9960 Y: not less than 44013	None of the above	
5	15910	B	<p>At 0802, Branford Reef Light bears 348°T at 0.75 mile, and the north point of Falkner Island bears 088°T at 6.7 miles. What were the set and drift since 0740?</p>	Set 040°T, drift .3 knot	Set 220°T, drift .9 knot	Set 220°T, drift .3 knot	You are making good your intended course and speed.	
5	15911	D	<p>What publication contains information on the navigational hazards in the vicinity of Falkner Island?</p>	The navigational regulations in Title 46 Code of Federal Regulations	Inland Navigation Rules	U.S. Coast Guard Light List	U.S. Coast Pilot	
5	15912	C	<p>If there is no current, what is the course per standard magnetic compass from your 0802 fix to the position 1.1 miles north of Falkner Island Light?</p>	064°	068°	095°	099°	
5	15913	D	<p>At 0830, you wish to get the latest weather forecasts for the Falkner Island area. On what frequency would you set your FM radio for this information?</p>	2181 kHz	156.65 Mhz	156.80 Mhz	162.40 Mhz	
5	15914	D	<p>At 0844, the range to the north end of Falkner Island is 2.0 miles and the left tangent bearing is 102°T. What is the approximate charted depth of the water?</p>	14 ft (4.2 meters)	19 ft (5.8 meters)	22 ft (6.7 meters)	29 ft (8.8 meters)	
5	15970	C	<p>If you have 16.3 miles to reach your destination from your 2000 position and want to be there at 2230, what speed should you make good?</p>	5.7 knots	6.1 knots	6.5 knots	6.9 knots	

			You are on course 082°T, and the engines are turning for 8 knots. At 0352, you take the following bearings:  Stratford Point Light 016°pgc Stratford Shoal (Middle Ground) Light 137°pgc					
5	16006	B	What is your 0352 position?	LAT 41°05.0'N, LONG 73°08.0'W	LAT 41°05.2'N, LONG 73°07.8'W	LAT 41°05.3'N, LONG 73°07.5'W	LAT 41°05.4'N, LONG 73°07.7'W	
5	16007	C	If the visibility is 11 miles, what is the earliest time you can expect to see New Haven Light?	The light is visible at 0352.	0414	0443	You will not sight the light.	
5	16008	B	While on a heading of 082°T, you sight Middle Ground Light in line with Old Field Point Light bearing 206° per standard magnetic compass. From this you can determine the _____.	variation	deviation table is correct for that heading	compass error is 17.5°E	deviation is 3.5°E for a bearing of 206° per standard magnetic compass	
5	16009	A	The maximum ebb current at a location 4.3 miles south of Stratford Point will occur at 0413. The predicted current will be 1.0 knot at 075°. What will be your course made good if you steer 082°T at 8 knots?	081°T	083°T	085°T	087°T	
5	16010	C	The characteristic of Branford Reef Light is _____.	flashing red every 4 seconds	flashing red every 3 seconds	flashing white every 6 seconds	flashing yellow every 4 seconds	
5	16011	A	At 0415, you take the following bearings:  Stratford Point Light 329.5°pgc Middle Ground Light 223.5°pgc Old Field Point Light 199.5°pgc  Which statement is TRUE?	You are to the right of your intended track line.	The current's drift is greater than predicted.	The course made good since 0452 is 081°T.	Your fathometer reads about 76 fathoms.	
5	16012	C	If you change course at 0420, what is the course to make good to leave Twenty Eight Foot Shoal Lighted Buoy abeam to port at 1 mile?	079°T	082°T	084°T	086°T	
5	16013	D	At 0430, you take the following loran readings:  9960-X-26605.5 9960-Y-43985.0  What is your 0430 position?	LAT 41°08.9'N, LONG 73°00.0'W	LAT 41°05.0'N, LONG 73°01.1'W	LAT 41°05.5'N, LONG 72°59.7'W	LAT 41°05.8'N, LONG 73°00.8'W	

5	16014	D	From your 0430 position, what is the course per standard magnetic compass to a position where Twenty-eight foot Shoal lighted buoy "TE" is abeam to port at 1 mile?	082.5°	086.0°	098.0°	101.5°
5	16015	A	By 0430, the wind has increased, and the visibility cleared due to passage of a front. You estimate 3° leeway due to NW'ly winds. What is the course per gyrocompass to pass 1.2 miles due south of Twenty-eight Foot Shoal Lighted Buoy "TE"?	080°	083°	086°	090°
5	16016	B	At 0430, you change course and speed to make good 090°T at 10 knots. At 0433, you slow due to an engineering casualty and estimate you are making good 5.5 knots. At what time will Branford Reef Light bear 000°T?	0601	0609	0620	0624
5	16017	C	What is the approximate distance to New Bedford, MA, from your 0530 DR position, if your 0352 position was 7 miles from Bridgeport, CT?	77 miles	91 miles	104 miles	115 miles
5	16018	D	At 0550, engineering repairs are complete and speed is increased to 9.6 knots. At 0630, Falkner Island Light bears 023°pgc and Horton Point Light bears 097°pgc. From your 0630 fix you steer to make good a course of 086°T while turning for 9.6 knots. At 0700, Falkner Island Light bears 336.0°pgc and Horton Point Light bears 105.5°pgc. The radar range to the south tip of Falkner Island is 5.7 miles. Which statement is TRUE?	Your course made good from 0630 to 0700 was 082°T.	The speed made good from 0630 to 0700 was 10.1 knots.	The current from 0630 to 0700 was 279°T at 0.6 knot.	You are making good your intended speed.
5	16019	B	The south shore of Long Island Sound from Horton Point to Orient Point is _____.	low and marshy	bluff and rocky	marked by sandy beaches and wooded uplands	bound by gradual shoaling
5	16020	C	If visibility permits, Orient Point Light will break the horizon at a range of about _____.	9.3 miles	10.8 miles	13.9 miles	17.0 miles
5	16038	B	At 0820 Old Field Point Light bears 206° per gyrocompass, and Stratford Shoals Middle Ground Light bears 322° per gyrocompass. The radar range to Middle Ground Light is 1.5 miles. Your 0820 fix gives you a position of _____.	LAT 41°02.6'N, LONG 73°05.2'W	LAT 41°02.5'N, LONG 73°04.9'W	LAT 41°02.3'N, LONG 73°05.2'W	LAT 41°02.0'N, LONG 73°05.1'W

5	16039	D	From your 0820 position you change course to your rendezvous position, one mile due south of buoy "NH", speed 14.5 knots. You estimate the current to be 260°T at 0.5 knot. The wind is northwesterly at 20 knots and you estimate 2° leeway. What is your course per gyrocompass (pgc) to the rendezvous position, if you correct your heading for current and leeway?	039°	041°	043°	045°
5	16040	D	At 0847 you take a round of bearings as follows:  Middle Ground Shoal Light - 237° pgc Stratford Point Light - 289° pgc New Haven Light - 019° pgc  What were the set and drift since your 0820 position?	Set 180°T, drift 0.6 kt	Set 360°T, drift 0.3 kt	Set 180°T, drift 0.3 kt	Set 360°T, drift 0.6 kt
5	16041	C	From your 0847 fix, you change course to arrive at the rendezvous position and, correcting for current, you estimate your speed over the ground at 15 knots. What is your ETA at the rendezvous?	0902	0905	0908	0911
5	16042	B	At 1022 when you complete the evacuation, you get underway on course 098°T and order turns for 14.5 knots. You take the following round of bearings at that time: Stratford Point Light - 260° per gyrocompass New Haven Light - 326° per gyrocompass SW Ledge Light - 358° per gyrocompass  Determine your ETA and distance off when abeam of Falkner Island Light, if there are no set and drift?	1102, 3.0 miles	1108, 3.3 miles	1114, 3.1 miles	1118, 3.3 miles
5	16043	D	As you cross the New Haven Outer Channel range, you observe the range in line bearing 335.5° per gyrocompass. The helmsman reports that he was heading 100° per gyrocompass, and that the standard magnetic compass read 109° at the time of the observation. What are the gyro error and deviation of the standard magnetic compass on this heading?	Gyro error 2°E, deviation 3°E	Gyro error 0° , deviation 2°W	Gyro error 2°W, deviation 9°W	Gyro error 2°W, deviation 3°E

5	16044	D	At 1038 Branford Reef Light bears 019°pgc, Falkner Island Light bears 075°pgc, and the radar range to Branford Reef Light is 3.0 miles. Which statement is TRUE of your 1038 position?	You are required by regulation to change course to avoid steaming through the dumping ground.	You are making more speed over the ground, since your 1022 fix, than indicated by your engine RPM.	When the loran reads 9960-Y-43964.0, you should follow that loran reading to the approaches to the Race.	Your fathometer reads about 25 feet.	
5	16045	A	The north shore of Long Island, from Horton Point to Orient Point, is _____.	bluff and rocky	low and sparsely wooded	marked by long sandy beaches at low water	marshy and backed with sand dunes	
5	16046	D	The visibility is excellent. When Race Rock Light Tower breaks the horizon, how far will you be from the Tower?	8.5 miles	9.6 miles	14.0 miles	17.9 miles	
5	16056	B	At 1730, your position is LAT 37°13.9'N, LONG 76°26.4'W. What is your distance off Tue Marshes Light?	2.2 miles	2.6 miles	3.0 miles	3.4 miles	
5	16057	C	What is the maximum allowable speed of vessels underway up river from Tue Marshes Light?	8 knots	10 knots	12 knots	14 knots	
5	16058	D	At 1750, your position is LAT 37°14.5'N, LONG 76°22.9'W. What was the speed made good between 1730 and 1750?	7.5 knots	7.8 knots	8.1 knots	8.4 knots	
5	16059	C	At 1800, Tue Marshes Light bears 270°pgc, and York Spit Swash Channel Light "3" bears 007°pgc. Your position is _____.	LAT 37°14.0'N, LONG 76°19.8'W	LAT 37°14.2'N, LONG 76°20.3'W	LAT 37°14.2'N, LONG 76°20.1'W	LAT 37°14.5'N, LONG 76°20.0'W	
5	16060	A	The short-long dashed, magenta lines parallel to York River Entrance Channel mark _____.	fish trap areas	naval exercise areas	underwater cables	recommended track lines	
5	16061	B	You have just passed York River Entrance Channel Lighted Buoys "13" and "14". The chart shows a light approximately 1.0 mile off your port beam with a light characteristic "Fl 6 sec". What is the name of this light?	Mobjack Bay Entrance Light	York Spit Light	New Point Comfort Light	York River Entrance Channel Light "1"	

5	16062	B	At 1930, your vessel is between York River Entrance Channel Lighted Buoys "1YR" and "2". From this position, you change course to 142°pgc at an engine speed of 8.0 knots. At 2000, you take the following bearings: Chesapeake Channel Tunnel North Light - 131°pgc Thimble Shoal Light - 247°pgc What were the set and drift between 1930 and 2000?	140°T at 0.2 knot	140°T at 0.4 knot	320°T at 0.2 knot	320°T at 0.4 knot
5	16063	D	At 2013, you sight Thimble Shoal Light in line with Old Point Comfort Light bearing 258°pgc. At the time of the bearing, the vessel was headed 142°pgc and 151°psc. Based on this, you _____.	know the gyro error is 2°E	should adjust the magnetic compass	verified that the variation is 10°W	have checked the deviation table for a magnetic heading of 150°
5	16064	B	At 2015, your vessel is at the Chesapeake Bay Bridge and Tunnel midway between buoys "13" and "14". If the height of tide is -1 foot (-.3 meter). What is the approximate depth under the keel?	51 feet (15.5 meters)	45 feet (13.6 meters)	40 feet (12.1 meters)	35 feet (10.6 meters)
5	16065	B	If you steer 143°pgc at an engine speed of 8.0 knots from your 2015 position, at what time would you reach a point midway between buoys "11" and "12" (ignore set and drift)?	2020	2029	2032	2039
5	16066	A	Which statement concerning Thimble Shoal Channel is TRUE?	The project width of the main channel is 1000 feet (30.3 meters)	The channel is 14.5 miles in length.	A tow drawing 30 feet (9.1 meters) is excluded from the main channel.	Thimble Shoal Channel is in international waters.
5	16067	A	At 2118, you obtain the following information: Cape Henry Light 151°pgc; Cape Charles Light 033°pgc; Thimble Shoal Light 291°pgc What is your 2118 position?	LAT 36°57.4'N, LONG 76°01.9'W	LAT 36°57.5'N, LONG 76°01.4'W	LAT 36°57.6'N, LONG 76°01.8'W	LAT 36°57.6'N, LONG 76°02.2'W
5	16068	D	From your 2118 position, you proceed to Norfolk, VA, a distance of approximately 26.0 miles. To arrive at Norfolk by 0200 the next day, what is the minimum speed to make good from your 2118 position to arrive at this time?	5.0 knots	5.3 knots	5.8 knots	5.5 knots

5	16069	D	From your 2118 position, you steer a course of 288°T at an engine speed of 7.0 knots. Visibility is 2 miles. Height of eye is 12 feet (3.7 meters). At what time can you expect to see Old Point Comfort Light?	The light is visible at 2118	2139	2201	2232
5	16070	C	When exiting Thimble Shoal Channel bound for Norfolk, the track line based on the lights of the Norfolk Entrance Reach Range is _____.	220°T	222°T	224°T	228°T
5	16106	A	At 0410, you take the following bearings: New Point Comfort Light "2" 242°T Wolf Trap Light 313°T Horn Harbor Entrance Light "HH" 262°T  What is your 0410 position?	LAT 37°21.0'N, LONG 76°08.1'W	LAT 37°21.0'N, LONG 76°08.8'W	LAT 37°21.1'N, LONG 76°07.9'W	LAT 37°21.2'N, LONG 76°08.2'W
5	16107	D	If the visibility is 5 miles and you are in the red sector, at what distance off should you sight Cape Henry Light?	15 miles	13 miles	11 miles	09 miles
5	16108	B	From your 0410 fix, what is the course per standard magnetic compass to the entrance to York Spit Channel between buoys "37" and "38"?	178°	176°	156°	152°
5	16109	B	You are turning for 9 knots, a westerly wind is causing 3° of leeway, and the current is 320°T at 1.2 knots. What true course should you steer to remain in the northern leg of York Spit Channel?	191°T	194°T	197°T	203°T
5	16110	D	If you are making 8.3 knots over the ground, what is your ETA at the first turning point in York Spit Channel between buoys "29" and "30"?	0444	0456	0508	0522
5	16111	B	Which publication contains the specific information about navigating in York Spit Channel?	Light List	Coast Pilot	Chesapeake Bay Harbor- master's Regulations Manual	Navigator's Manual - Chesapeake Bay
5	16112	D	At 0530, the Coast Guard announces that Chesapeake Channel is closed indefinitely due to a collision occurring in the channel between Trestle "B" and "C" of the Chesapeake Bay Bridge and Tunnel. You exit York Spit Channel, leaving buoy "20" abeam to port at 0.1 mile, and alter course to leave Horseshoe Crossing Lighted Bell Buoy abeam to port at 0.2 mile. What is the course per gyrocompass?	185°pgc	187°pgc	190°pgc	193°pgc

5	16113	C	After you enter Thimble Shoal Channel, you will alter course to pass between Trestle "A" and "B". Which channel should you use?	Thimble Shoal Main Channel or the South Auxiliary Channel	Any of the channels but keep to the right hand side	The South Auxiliary Channel	Thimble Shoal Main Channel	
5	16114	C	As you pass through the Chesapeake Bay Bridge and Tunnel, you sight Trestle "A" in line bearing 198°pgc. What is the gyro error?	2°E	0°E	2°W	4°W	
5	16115	B	You sighted Trestle "A" in line at 0707 and are steering 108°T. At 0731, Cape Henry Light bears 136°T; Cape Charles Light bears 032.5°T; and Thimble Shoal Tunnel South Light bears 282°T. What was the speed made good between 0707 and 0731?	8.3 knots	8.8 knots	9.2 knots	9.4 knots	
5	16116	A	At 0731, approximately how much water is under your keel?	31 feet (9.4 meters)	45 feet (13.6 meters)	48 feet (14.5 meters)	54 feet (16.4 meters)	
5	16117	A	What is the distance from your 0731 fix to Wilmington, N.C. (LAT 34°14.0'N, LONG 77°57.0'W)?	339 miles	363 miles	402 miles	486 miles	
5	16118	D	You will enter waters governed by the International Rules when _____.	you cross the territorial sea boundary line	abeam of buoy "CBJ"	you cross the boundary of the contiguous zone	Cape Charles Light bears 022°T	
5	16119	D	At 0812, you take the following loran readings:  9960-X-27155.2 9960-Y-41267.9 9960-Z-58537.8  What is your 0812 position?	LAT 36°53.7'N, LONG 75°56.0'W	LAT 36°53.8'N, LONG 75°56.1'W	LAT 36°54.5'N, LONG 75°56.2'W	LAT 36°54.6'N, LONG 75°55.8'W	
5	16120	C	At 0812, you are on course 132°T. The standard magnetic compass reads 135°. What should you conclude?	The deviation table is correct for that heading.	You should adjust the magnetic compass.	Your compass may be influenced by a local magnetic disturbance.	The deviation is increasing as you go south.	
5	16138	D	At 1930 Race Rock Light bears 111°T, Little Gull Island Light bears 172°T, and a reading of 26157 is obtained on Loran Rate 9960-X. Which of the following is your position at 1930?	LAT 41°15.6'N, LONG 72°09.6'W	LAT 41°16.1'N, LONG 72°08.3'W	LAT 41°15.3'N, LONG 72°12.9'W	LAT 41°15.8'N, LONG 72°07.1'W	

5	16139	B	From your 1930 position, you set a course of 150°T. Your engine speed is 13 knots. What will be your distance off Valiant Rock Bell Buoy "1A" when abeam, if you make good your true course of 150°?	0.8 mile	1.0 miles	1.2 miles	1.4 miles
5	16140	B	Available information indicates that there is a set and drift in this area of 290°T at 2 knots. Allowing for this set and drift, what course must you steer to make good a true course of 150°, while maintaining an engine speed of 13 knots, from your 1930 position?	141°T	145°T	149°T	153°T
5	16141	B	The speed you can expect to make good over your course while steering to make 150°T is _____.	11.0 knots	11.4 knots	14.0 knots	14.4 knots
5	16142	A	At 1949 Little Gull Island Light bears 270°T and is 1.7 miles off. From this position, you change course to 118°T and increase engine speed to 18 knots. If you make good your course and speed, at what time should Shagwong Reef Lighted Bell Buoy "7SR" bear 180°T?	2016	2019	2022	2025
5	16144	D	From your 2027 position you change course to 106°T, while maintaining an engine speed of 18 knots. Your ETA at a position where Block Island Sound South Entrance Obstruction Lighted Buoy "BIS" is abeam is _____.	2039	2043	2047	2050
5	16145	A	At 2054 Block Island Southeast Point Light bears 054°T, Southwest Ledge Lighted Bell Buoy 2 is 1.6 miles off to port, and a reading of 14595 is obtained on loran rate 9960-W. The set and drift from 2027 to 2054 is _____.	127°T at 3.1 knots	127°T at 1.4 knots	307°T at 3.1 knots	307°T at 1.4 knots
5	16146	A	From your 2054 position, you change course to 066°T. Maintaining course and speed of 18 knots, at what time can you expect to first cross the 90-foot curve if you experience no set and drift?	2105	2111	2117	2125

5	16206	B	<p>You are steering 087°pgc and turning for 6.8 knots. At 0600, you take the following loran readings:</p> <p>9960-W-14784.4 9960-X-26208.3 9960-Y-43959.1</p> <p>What is your 0600 position?</p>	LAT 41°11.2'N, LONG 72°14.6'W	LAT 41°12.1'N, LONG 72°13.8'W	LAT 41°12.3'N, LONG 72°14.7'W	LAT 41°12.5'N, LONG 71°14.9'W	
5	16207	C	<p>If you change course at 0610, what is the course to steer to a point where Little Gull Island Light bears 180°T at 0.7 mile (Point "A")?</p>	072°pgc	076°pgc	080°pgc	084°pgc	
5	16208	B	<p>What is your ETA at point "A"?</p>	0640	0651	0655	0702	
5	16209	D	<p>You calculate that the current will be ebbing at the Race at 0700. You should expect to be set in which general direction at the Race?</p>	West	North	Northeast	East	
5	16210	A	<p>As you near Little Gull Island, you use your loran to insure that you do not come within 0.5 mile of the island. Which of the following loran readings will act as a danger line and keep you off Little Gull Island by a minimum of 0.5 mile?</p>	Not less than 9960-Y-43953.5	Not more than 9960-W-14735.9	Not less than 9960-W-14735.8	Not more than 9960-X-26149.0	
5	16211	D	<p>From point "A", you lay out an intended track line to a point where Block Island North Light bears 180°T at 2.9 miles (Point "B"). What is the length of this leg of the voyage?</p>	20.4 miles	23.7 miles	23.9 miles	24.4 miles	
5	16212	C	<p>What is the course per standard magnetic compass between points "A" and "B"?</p>	094.5°	095.5°	098.5°	099.5°	
5	16213	A	<p>At 0715 you take the following bearings:</p> <p>Race Rock Light      328°pgc Little Gull Island Light   249°pgc Mt. Prospect Antenna   036°pgc</p> <p>Based on your 0715 fix, which statement is TRUE?</p>	You are to the left of your track line.	Your fathometer reads about 265 fathoms.	You are in a cable area.	You are governed by the Inland Rules.	

5	16214	C	<p>From your 0715 position, you set a course of 085°T. At 0745 you take the following bearings:</p> <p>Race Rock Light                    278°pgc  Watch Hill Light                    049°pgc  Fisher's Island East Harbor Cupola 010°pgc</p> <p>What was the current encountered between 0715 and 0745?</p>	Set 030°T, drift 0.4 knot	Set 216°T, drift 0.3 knot	Set 070°T, drift 0.6 knot	Set 238°T, drift 1.0 knot
5	16215	D	<p>The wind is southerly, and you estimate 3° leeway. Allowing for leeway, what is the course to steer from your 0745 position to pass 1 mile south of Watch Hill Buoy "WH"?</p>	079°pgc	081°pgc	085°pgc	087°pgc
5	16216	B	<p>From your 0745 fix, you change course to pass 1.0 mile south of buoy "WH" and estimate your speed at 7 knots. If the visibility clears, what is the earliest time you can expect to see Block Island North Light tower?</p>	0750	0807	0838	0845
5	16217	B	<p>Which statement describes the shore between Watch Hill Point and Point Judith?</p>	Low, rocky cliffs with heavily wooded hills inland	Sandy beaches broken by rocky points	Sand dunes and beaches with a mud and sand bottom	Wooded, barren hills with isolated prominent buildings
5	16218	D	<p>At 0830, Watch Hill Point bears 343°T at 3.5 miles by radar. What was the speed made good since 0745?</p>	5.4 knots	5.8 knots	6.7 knots	7.1 knots
5	16219	C	<p>At 0900, you take the following radar ranges:</p> <p>Watch Hill Point                    5.4 miles  Block Island Grace Point 8.3 miles</p> <p>Which statement is TRUE?</p>	You are within 3 nautical miles of the coast.	The bottom in the area is sand and gravel.	The fix is indeterminate.	You are governed by the Inland Rules.
5	16220	D	<p>At 0930, your position is LAT 41°16.5'N, LONG 71°41.4'W, and you are turning for 7 knots. Allowing 3° leeway for southerly winds and estimating the current as 035° at 0.3 knot, what is the course to steer (pgc) to point "B"?</p>	089°pgc	091°pgc	093°pgc	096°pgc

5	16238	B	At 2045, you obtain the following Loran-C information:  9960-X-27102 9960-Y-41627 9960-Z-58743  Your vessel's position is _____.	LAT 37°22.8'N, LONG 75°30.8'W	LAT 37°22.3'N, LONG 75°31.7'W	LAT 37°22.0'N, LONG 75°29.3'W	LAT 37°21.8'N, LONG 75°30.7'W	
5	16239	A	From your 2045 position, you set a course to pass 1.5 miles due east of the charted position of Hog Island Lighted Bell Buoy "12". The known set and drift in the area are 068°T at 3 knots. What is the course to steer, with no change in engine speed, to make good your desired course?	200°T	203°T	206°T	209°T	
5	16240	B	The speed that you can expect to make good, while steering to make good your desired course, is _____.	13.5 knots	14.3 knots	15.1 knots	15.9 knots	
5	16241	D	At 2129 Cape Charles Light bears 253°T, Hog Island Lighted Bell Buoy "12" bears 351°T, and Cape Charles Lighted Bell Buoy "14" bears 230°T. Which statement is TRUE?	The fathometer reads about 62 feet (18.9 meters).	The bottom is hard sand and oysters.	You are to seaward of the contiguous zone.	You are governed by the International Rules of the Road.	
5	16243	D	At 2207 Cape Charles Light bears 276°T, Chesapeake Light bears 194°T, and Cape Charles Lighted Bell Buoy "14" bears 312°T and is 2.0 miles off. What were the set and drift of the current acting on your vessel from 2129 to 2207?	258°T at 2.4 knots	258°T at 1.5 knots	078°T at 1.5 knots	078°T at 2.4 knots	
5	16245	D	At 2259 Cape Henry Light bears 250°T, Chesapeake Light bears 122°T, and North Chesapeake Entrance Lighted Whistle Buoy "NCA" has a radar range of 1.8 miles. Which statement is TRUE?	The course made good is 226°T.	You are in the red sector of Cape Henry Light.	You are in a submerged submarine transit lane.	Chesapeake Light is 7.6 miles off.	
5	16246	C	From your 2259 fix, you alter course to 250°T. At 2300 Cape Henry Light bears 250°T. At 2326 Cape Henry Light bears 252°T. Which statement is TRUE?	You are being set to the right.	The bearing change should be expected as you transit the inbound lane.	You should alter course to starboard.	You should slow to reduce the effect of the current.	
5	16256	B	What is the course per gyro compass from the anchorage to point A located 0.5 mile east of Cape Charles Lighted Bell Buoy 14?	180°	184°	198°	199.5°	

5	16257	C	If your engines turn for 6.5 knots, and you encounter a 0.5 knot southerly current after weighing anchor. What is your ETA at point A?	0511	0501	0450	0440
5	16258	B	What is the course to steer per standard magnetic compass from the anchorage to point A, if easterly winds are causing 3° of leeway?	187°	191°	194°	197°
5	16259	A	You are on track from the anchorage to point A. At 0250, Great Machipongo Inlet Light "5" (37°21.8'N, 75°43.7'W) bears 279°pgc. At 0320, the light bears 320°pgc. What is the position of your 0320 running fix if you are making good 6.5 knots?	LAT 37°18.10'N, LONG 75°39.55'W	LAT 37°18.10'N, LONG 75°39.30'W	LAT 37°18.00'N, LONG 75°39.75'W	LAT 37°17.95'N, LONG 75°39.95'W
5	16260	D	If your vessel draws 6.5 feet (2 meters), what is the approximate depth of water under your keel at 0320?	52 feet (15.8 meters)	48 feet (14.5 meters)	44 feet (13.3 meters)	40 feet (12.0 meters)
5	16261	B	At 0400 you take a loran fix with the following readings:  9960-X-27120.9 9960-Y-41524.8 9960-Z-58681.9  What is your 0400 position?	LAT 37°14.2'N, LONG 75°39.2'W	LAT 37°14.4'N, LONG 75°39.3'W	LAT 37°14.4'N, LONG 75°39.0'W	LAT 37°14.6'N, LONG 75°39.2'W
5	16262	C	What was the speed made good from 0240 to 0400?	5.2 knots	5.6 knots	6.0 knots	6.4 knots
5	16263	C	If you increase speed to 8 knots, and the current is 240° at 0.7 knot. What course should you steer from your 0400 position to arrive at point A?	178°T	180°T	183°T	186°T
5	16264	D	Which statement about your 0400 position is true?	You are governed by the Inland Rules of the Road.	Anchoring, trawling and fishing are prohibited.	The ocean floor is composed of shingle.	You are within the Territorial Sea and the contiguous zone.
5	16265	B	At 0600, you are on course 241°psc at 6.5 knots. Chesapeake Light bears 153° per standard magnetic compass, and Cape Henry Light bears 261° per standard magnetic compass. What is the position of your 0600 fix?	LAT 36°59.0'N, LONG 75°47.4'W	LAT 36°59.3'N, LONG 75°47.7'W	LAT 36°59.5'N, LONG 75°47.8'	LAT 36°59.3'N, LONG 75°48.0'
5	16266	D	The abandoned lighthouse at Cape Henry is a(n) _____.	octagonal, black and white tower	radio beacon station	emergency back up to Cape Henry Light	gray, pyramidal tower

5	16267	A	When Cape Henry Light is abeam, what is the approximate distance to Yorktown, VA?	34 miles	42 miles	55 miles	58 miles	
5	16268	B	As you pass between trestle "B" and trestle "C" of the Chesapeake Bay Bridge - Tunnel, you sight along the trestle "C" when it is in line. The gyro bearing is 048°. What is the gyro error by observation?	4°E	1°E	0°	2°W	
5	16269	A	On either side of York River Entrance Channel, there are areas bounded by short - long magenta lines and marked by yellow buoys. These areas are _____.	fish trap areas	designated anchorages	spoil areas	naval exercise areas	
5	16270	C	The wind is northerly and will cause 2° leeway. The current is 018° at 0.5 knot. If your engines are turning for 8.0 knots. What should you steer to remain in York River Entrance Channel?	304°T	306°T	309°T	314°T	
5	16306	B	At 0345, you set a course to depart New London Harbor. Assuming no set and drift, which standard magnetic compass course must you steer to stay in the middle of the channel?	175°psc	187°psc	190°psc	192°psc	
5	16307	C	Which statement regarding the wreck 0.2 mile south of buoys "1" and "2" at the entrance to New London Harbor is TRUE?	The wreck presents a danger to all vessels with drafts in excess of 30 feet (9.1 meters).	The wreck is visible above the sounding datum between the months of March and June.	The wreck is shown on the chart, but its actual existence is doubtful.	The wreck was cleared by wire drag in 1982 and will not appear on future charts.	
5	16308	A	At 0530, your position is LAT 41°13.6'N, LONG 72°08.5'W. What is the color of New London Harbor Light?	Red	White	Green	Alternating white and green	
5	16309	B	From your 0530 position, you set a course of 271°psc with an engine speed of 9 knots. At 0645, Cornfield Safe-Water Buoy "CF" is abeam to port. What speed have you averaged since 0530?	7.5 knots	8.6 knots	9.0 knots	9.5 knots	
5	16310	A	At 0730, your position is LAT 41°10.5'N, LONG 72°32.2'W. From this position you steer course 286°psc with an engine speed of 9.0 knots. What is the approximate depth of water under your keel?	52 feet (15.8 meters)	57 feet (17.3 meters)	62 feet (18.8 meters)	67 feet (20.3 meters)	
5	16311	B	The broken magenta line which runs parallel to the shore between Roanoke Point and Mattituck Inlet marks a _____.	pipeline	fish trap area	demarcation line	cable area	

5	16312	D	Assuming no current, at what time can you expect to be abeam of Townshend Ledge Lighted Buoy?	0859	0902	0905	0910	
5	16313	B	At 0730, visibility is 5.5 miles. At what time will you lose sight of Horton Point Light?	It is not visible at 0730	0751	0812	0825	
5	16314	D	At 0820, you take the following Loran-C readings:  9960-W-14978.0 9960-Y-43993.5 9960-X-26464.1  What are the set and drift since 0730?	Set 052°T, drift 1.1 knots	Set 052°T, drift 1.3 knots	Set 236°T, drift 1.1 knot	Set 236°T, drift 1.3 knots	
5	16315	C	At 0820, you change course to 301°psc and reduce speed to 7.5 knots. At 0900, you take the following visual bearings: Branford Reef Light       023°psc New Haven Light           293°psc Tweed Airport Aerobeacon 332°psc  Your 0900 position is _____.	LAT 41°11.9'N, LONG 72°50.6'W	LAT 41°11.9'N, LONG 72°49.5'W	LAT 41°12.1'N, LONG 72°48.6'W	LAT 41°12.5'N, LONG 72°44.3'W	
5	16316	A	At 0900, the current is flooding in a direction of 350°T at 1.2 knots. If your engines are turning RPMs for 9 knots, which course should you steer per standard magnetic compass to make good a course of 297° true?	302°psc	311°psc	317°psc	319°psc	
5	16317	B	Which chart would you use for more detailed information on New Haven Harbor?	12370	12371	12372	12373	
5	16318	B	What true course and speed did you make good between 0730 and 0900?	273°T, 8.7 knots	277°T, 8.4 knots	279°T, 8.0 knots	284°T, 7.5 knots	
5	16319	A	As you enter the New Haven Outer Channel, you sight the outer range markers in line directly ahead. Your heading at this time is 347°psc. What is your compass deviation by observation?	0.5°East	3.0°East	3.5°West	4.5°East	
5	16320	C	Which course should you change to per standard magnetic compass as you pass SW Ledge Light to remain in the channel?	007°psc	014°psc	021°psc	026°psc	

5	16338	C	At 2209 you take the following loran readings:  9960-W-14617.0 9960-X-25834.3 9960-Y-43716.5  There is a strong WSW'ly wind causing an estimated 3° leeway. What course will you steer by standard magnetic compass from your 2209 position to make good 340°T?	322°	348°	356°	002°
5	16339	A	Based on your 2209 fix, which would be a warning that you are being set down on Block Island Sound South Entrance Obstruction Lighted "BIS" Buoy?	Decreasing loran readings on 9960-W	Visual bearings of Montauk Point Lt. changing to the left	Increasing bearings of Southeast Point Light	Decreasing soundings
5	16340	C	If you make good your intended course and speed, at what time will you cross the 150-foot curve?	2237	2249	2256	2301
5	16341	D	At 2230 you take the following visual bearings:  Montauk Point Light, Long Island 317°pgc Southeast Point Light, Block Island 009°pgc  What is your position?	LAT 40°51.2'N, LONG 71°35.9'W	LAT 40°51.5'N, LONG 71°36.4'W	LAT 40°52.2'N, LONG 71°36.6'W	LAT 40°52.0'N, LONG 71°37.4'W
5	16342	A	At 2302 you fix your position at LAT 40°57.8'N, LONG 71°39.3'W. What current have you experienced since your 2209 fix?	105°T at 1.0 knot	105°T at 0.9 knot	285°T at 1.0 knot	285°T at 0.9 knot
5	16343	B	At 2302 you change course to compensate for an estimated current of 090°T, at 1.0 knot. What course per gyrocompass will you steer to leave Endeavor Shoals Lighted Gong Buoy "3" abeam to port at 1 mile?	324°pgc	327°pgc	330°pgc	333°pgc
5	16344	C	After changing course to allow for a current of 090°T at 1.0 knot, what time will Endeavor Shoals Lighted Gong Buoy "3" be abeam to port?	2340	2345	2350	2355
5	16345	B	Where will you cross the demarcation line between the International and Inland Rules of the Road?	Between Montauk Point and Block Island	In the Race	At the mouth of Bridgeport Harbor	Between Plum Gut and Niantic Bay

5	16346	B	After passing through the Race, enroute to Bridgeport, CN, and Race Rock Light is 2 miles astern you notice an equal interval flashing red light on the starboard side. This light is _____.	New London Airport Aerobeacon	New London Harbor Light	New London Ledge Light	Bartlett Reef Light
5	16356	D	What is the course per standard magnetic compass from the anchorage to point "A" located 0.5 mile east of Cape Charles Lighted Bell Buoy 14?	185°	188°	191°	194°
5	16357	D	The coast between Great Machipongo Inlet and Cape Charles is _____.	composed of high rocky bluffs and wooded uplands	marked by prominent isolated barren hills	broken by the mouths of several major rivers	low with sandy beaches bordered by marshes
5	16358	B	What is the distance from the anchorage to point "A"?	13.9 miles	15.1 miles	15.9 miles	17.0 miles
5	16359	A	If your engines are turning for 6.5 knots and the estimated current is north at 0.5 knot. What is the ETA at point "A"?	0511	0501	0450	0440
5	16360	D	What is the course to steer per gyro compass from the anchorage to point "A" if westerly winds are causing 3° of leeway?	178°pgc	182°pgc	184°pgc	187°pgc
5	16361	B	At 0400, you take a loran fix with the following readings:  9960-X-27126.4 9960-Y-41516.6 9960-Z-58674.4  What was the course made good since 0240?	182°T	185°T	189°T	192°T
5	16362	B	The visibility is about 5 miles. Which statement about Cape Charles Light is TRUE?	The light has been visible from the time you departed the anchorage.	You should see Cape Charles Light at about 0400.	The light will become visible when you enter the inbound leg of the traffic separation scheme.	The light will not be visible until you are within 5 miles of the light.
5	16363	B	At 0405, you increase speed and at 0500 your position is LAT 37°06.0'N, LONG 75°41.1'W. What is the approximate depth of water?	46 feet (13.9 meters)	54 feet (16.4 meters)	62 feet (18.8 meters)	66 feet (20.0 meters)
5	16364	C	If you proceed from your 0500 position to Chesapeake Bay via the inbound traffic lane. What is the distance to Yorktown, VA?	34.0 miles	42.6 miles	51.7 miles	62.1 miles

5	16365	C	From your 0500 position, you change course to 221°T and order turns for 9.8 knots. At 0600 Chesapeake Light bears 143°pgc at a radar range of 6.5 miles. Cape Henry Light bears 252°pgc. What is the position of your 0600 fix?	LAT 36°59.1'N, LONG 75°48.1'W	LAT 36°59.1'N, LONG 75°47.6'W	LAT 36°59.2'N, LONG 75°47.8'W	LAT 36°58.9'N, LONG 75°48.5'W	
5	16366	A	From your 0600 fix, you change course to 250°T. At 0605, Cape Henry Light bears 250°T. At 0615, it bears 251°T. At 0625, it bears 252°T. Based on this you know you are _____.	being set to the south	being set to the north	meeting a current from dead ahead	running with a current from dead astern	
5	16367	C	Weather broadcasts for the Norfolk area are broadcast on what frequency?	162.25 MHz	162.30 MHz	162.55 MHz	162.65 MHz	
5	16368	C	Why should mariners use extreme care when navigating within the precautionary area centered on Chesapeake Bay Entrance Junction Lighted Gong Buoy CBJ?	There are numerous underwater obstructions that are a hazard to vessels with drafts exceeding 2 meters (6.5 feet).	Fishing vessels of limited maneuverability routinely operate in this area when hunting oyster and crabs.	Vessels may approach from different directions from the inbound separation lanes and from Chesapeake and Thimble Shoal Channel.	Large naval vessels having the right of way often enter the area when bound to or from the Norfolk Naval Base.	
5	16369	D	As you pass between Trestle B and Trestle C of the Chesapeake Bay Bridge - Tunnel, you sight along Trestle C when it is in line. The gyro bearing is 051°. What is the gyro error by observation?	4°E	2°E	0°	2°W	
5	16370	C	The wind is westerly and will cause 2° of leeway. The current is 180° at 0.5 knot. If your engines are turning for 8.0 knots, what should you steer to remain in York River Entrance Channel?	304°T	307°T	311°T	314°T	
5	16406	A	At 0227, you take the following radar ranges and bearings:  Bartlett Reef Light 359°T at 2.4 miles Race Rock Light 083°T at 4.1 miles  What is your 0227 position?	LAT 41°14.1'N, LONG 72°08.2'W	LAT 41°14.2'N, LONG 72°08.4'W	LAT 41°14.0'N, LONG 72°08.5'W	LAT 41°14.3'N, LONG 72°08.5'W	
5	16407	C	At 0227, you are on course 087°T at 10 knots. What course per standard magnetic compass should you steer to make good your true course?	099°psc	102°psc	105°psc	109°psc	

5	16408	B	You estimate that you are making 9.3 knots over the ground. At what time will you enter waters governed by the COLREGS?	0247	0251	0255	0258
5	16409	B	At 0337, fog closes in and you anchor under the following radar ranges and bearing.  South tip of Watch Hill Point 3.0 miles East point of Fishers Island 1.4 miles Latimer Reef Light 331°T  What is the approximate depth of water at your anchorage?	83 feet (25.2 meters)	100 feet (30.3 meters)	120 feet (36.4 meters)	135 feet (40.9 meters)
5	16410	D	By 1015, visibility has increased to 5.0 miles and you can see Fishers Island. Fishers Island has _____.	low and sandy beaches with salt ponds and marsh grass	sheer cliffs rising from the sea to a high, flat plateau	barren, rocky hills with prominent sandy beaches	sparsely wooded hills and is fringed with shoals to the south
5	16411	D	You get underway at 1030. The wind is out of the SSE and you estimate 3° leeway. What course should you steer per gyrocompass to make good a desired course of 075°T?	074°pgc	076°pgc	078°pgc	080°pgc
5	16412	A	Shortly after getting underway, your heading is 097° per standard magnetic compass, and you sight Stonington Outer Breakwater Light in line with Stonington Inner Breakwater Light bearing 000° per gyrocompass. Which statement is TRUE?	The gyro error is 2.5°W.	The variation is 2°E.	The compass error is 16°W.	The deviation is 2°W.
5	16413	C	At 1104, Watch Hill Point Light is in line with Stonington Outer Breakwater Light, the range to the south tip of Watch Hill Point is 2.6 miles and the range to the beach is 1.9 miles. You are steering to make good 075°T, speed 10.0 knots. At 1110, you change course to head for a position of LAT 41°05.0'N, LONG 71°50.0'W. What is the true course?	185°	187°	190°	193°
5	16414	C	At 1110, you increase speed to 12 knots. What is your ETA at the new position?	1157	1208	1215	1219
5	16415	D	You can follow what loran reading between your two positions?	There is no loran reading to follow.	9960-Y-43958	9960-W-14655	9960-X-25982

5	16416	B	At 1345, you depart from a position 1 mile due east of Montauk Point Light and set course for Block Island Southeast Light at 9 knots. At 1430, you take the following loran readings:  9960-W-14600.8 9960-Y-43866.3 9960-X-25912.3					
			What was the current encountered since 1345?	Set 015°, drift 0.5 knot	Set 195°, drift 0.5 knot	Set 015°, drift 0.7 knot	Set 195°, drift 0.7 knot	
5	16417	A	You are encountering heavy weather. What action should you take based on your 1430 fix?	Alter course to the right, to pass well clear of Southwest Ledge.	Continue on the same course at the same speed.	Slow to 8.3 knots to compensate for the current.	Continue on the same course but increase speed.	
5	16418	B	At 2100, you set course of 000°T, speed 10 knots from LAT 41°07.0'N, LONG 71°30.0'W. Visibility is 5.5 n.m. What is the earliest time you can expect to sight Point Judith Light? (Use charted range of 20 miles as nominal range.)	The light is visible at 2100.	2114	2123	2131	
5	16419	A	You estimate the current to be 160°T at 1.2 knots. What should your course and speed be in order to make good 000°T at 10 knots?	358°T at 11.1 knots	358°T at 09.8 knots	002°T at 11.2 knots	002°T at 09.9 knots	
5	16420	D	If you want to put into Point Judith Harbor of Refuge, what chart should you use?	13205	13209	13217	13219	
5	16438	A	Chesapeake Channel is temporarily closed to traffic. At 2215 you anchor on the following bearings:  Wolf Trap Light                   358°pgc Light "HH"                         301°pgc New Point Comfort Light "2" 263°pgc	LAT 37°18.3'N, LONG 76°10.9'W	LAT 37°18.2'N, LONG 76°11.2'W	LAT 37°18.1'N, LONG 76°10.8'W	LAT 37°18.0'N, LONG 76°11.2'W	
			What is your 2215 position?					
5	16439	B	While you are at anchor, what will serve as a positive warning that you are drifting towards the wrecks located to the NW and SW of your 2215 position?	A decreasing reading on loran pair 9960-X	The bearing of Wolf Trap Light changing to the right	Increasing soundings	The bearing of Wolf Trap Light changing to the left	

5	16440	A	What course per gyrocompass would you need to steer from the anchorage to York Spit Channel buoy "29"?	172° pgc	175° pgc	178° pgc	181° pgc	
5	16441	B	When you get underway, you will take the most direct route to buoy "CBJ", while remaining west of York Spit Channel. You will be turning for 9.7 knots and estimate an average ebb of 0.3 knot during the transit. How long will it take to steam from the anchor position to buoy "CBJ"?	2h 16m	2h 33m	2h 42m	2h 51m	
5	16442	D	The area bounded by the buoys "C51" to "C47A" to "M6" to "M14", west of your anchorage, is _____.	a training area for naval small craft	restricted to oil and mineral exploration	an anchorage for ammunition barges	a fish trap area	
5	16443	A	As you transit the Chesapeake Bay Bridge and Tunnel, you take a gyro bearing of trestle C when it is in line. The gyro bearing was 050°. At that time, the helmsman noted that he was heading 139°pgc and 146° per standard magnetic compass. What is the deviation?	2°E	0°	2°W	4°W	
5	16444	C	At 1042 you take the following round of bearings:  Cape Henry Light 259°T Chesapeake Light 101°T Cape Charles Light 006°T From this position, you set course 070°T at a speed of 9.5 knots.  What is the course per standard magnetic compass?	069.5°psc	060.5°psc	079.5°psc	080.5°psc	
5	16445	D	At 1126 you take the following loran readings:  9960-X-27125.7 9960-Y-41329.0 9960-Z-58588.6  What was the current encountered since your 1042 fix?	Set 276°, Drift 0.5 knot	Set 276°, Drift 0.7 knot	Set 096°, Drift 0.5 knot	Set 096°, Drift 0.7 knot	

5	16456	A	What is the course per standard magnetic compass from the anchorage to point A located 0.5 mile east of Cape Charles Lighted Bell Buoy 14?	194°psc	190°psc	187°psc	180°psc
5	16457	B	The coast between Great Machipongo Inlet and Cape Charles is _____.	broken by the mouths of several major rivers	low, with sandy beaches bordered by marsh and woodlands	marked by prominent, isolated, barren hills	composed of high, rocky bluffs and wooded uplands
5	16458	B	If your engines turn for 6.5 knots, and you encounter a 0.5 knot southerly current, what is your ETA at point A?	0400	0450	0501	0511
5	16459	B	What is the course to steer per gyro compass from the anchorage to point "A" if easterly winds are causing 3° of leeway?	178°pgc	181°pgc	185°pgc	189°pgc
5	16460	D	At 0250, Great Machipongo Inlet Light "5" (37°21.8'N, 75°43.7'W) bears 279°pgc. At 0320, the light bears 320°pgc. If you are making good 6.5 knots, what is the position of your 0320 running fix?	LAT 37°17.95'N, LONG 75°39.95'W	LAT 37°18.00'N, LONG 75°39.75'W	LAT 37°18.10'N, LONG 75°39.30'W	LAT 37°18.10'N, LONG 75°39.55'W
5	16461	D	At 0400, you take the following loran readings :  9960-X-27126.4 9960-Y-41516.6 9960-Z-58674.4  What is your 0400 position?	LAT 37°14.2'N, LONG 75°40.7'W	LAT 37°14.1'N, LONG 75°41.3'W	LAT 37°14.1'N, LONG 75°40.5'W	LAT 37°14.0'N, LONG 75°40.7'W
5	16462	A	Which statement about your 0400 position is TRUE?	You are within the territorial sea and contiguous zone.	You are governed by the Inland Rules of the Road.	The ocean floor is composed of shale.	Anchoring, trawling and fishing are prohibited.
5	16463	C	The visibility is about 5 miles. Which statement about Cape Charles Light is TRUE?	The light has been visible since you departed the anchorage.	You will not see the light until you are within 5 miles of the light.	The light will become visible about 0400.	The light will not be visible until you enter the inbound leg of the traffic separation scheme.
5	16464	D	At 0405, you increase speed. At 0500, your position is LAT 37°06.0'N, LONG 75°41.1'W. What is the approximate depth of the water under the keel?	66 feet (20.0 meters)	62 feet (18.8 meters)	54 feet (16.4 meters)	46 feet (13.9 meters)

5	16465	C	At 0600, you are entering the inbound leg of the traffic separation scheme at position LAT 36°59.2'N, LONG 75°47.6' W. Course is 250°T. At 0605, Cape Henry Light bears 249° T. At 0610, it bears 248°T. At 0625, it bears 247°T. Based on this, you know you are _____.	meeting a current from dead ahead	running with a current from dead ahead	being set to the north	being set to the south
5	16466	A	The abandoned lighthouse at Cape Henry is a(n) _____.	gray, pyramidal tower	mound of broken rubble	octagonal, black and white tower	black, skeleton structure
5	16467	D	Weather broadcasts for the Norfolk area are broadcast on which frequency?	162.30 MHz	162.35 MHz	162.50 MHz	162.55 MHz
5	16468	D	When Cape Henry Light is abeam, what is the approximate distance to Yorktown?	58 miles	55 miles	42 miles	34 miles
5	16469	A	As you pass between trestle "B" and trestle "C" of the Chesapeake Bay Bridge - Tunnel, you sight along the trestle "C" when it is in line. The trestle bears 057° per standard magnetic compass while the vessel is heading 320°T. From this you know the _____.	vessel should be swung to check the deviation table	compass error is 12°W	deviation table is correct for that bearing	deviation is 10°W
5	16470	D	The wind is easterly and will cause 2° of leeway. The current is 180° at 0.5 knot. If your engines are turning for 8.0 knots, what should you steer to remain in York River Entrance Channel?	304°T	307°T	310°T	315°T
5	16506	A	At 0630, you pass Buoy "P1" close abeam on the starboard side. You are steering 078°T and are headed directly toward Race Rock Light. At 0654, Little Gull Island Light is bearing 207°T and Race Rock Light is bearing 072°T. What is your 0654 position?	LAT 41°14.0'N, LONG 72°05.3'W	LAT 41°14.2'N, LONG 71°54.6'W	LAT 41°14.4'N, LONG 72°06.8'W	LAT 41°19.0'N, LONG 72°05.2'W
5	16507	C	What is your speed from your 0630 position, with Buoy "P1" close abeam, to your 0654 position?	8.2 knots	9.3 knots	10.5 knots	11.4 knots
5	16508	D	At 0700, your gyro alarm sounds. What course should you steer by the standard magnetic compass in order to maintain your original heading of 078°T?	062°psc	080°psc	090°psc	095°psc

5	16509	C	At 0705, with your gyro again functioning properly, you change course to 096°T. At this time Race Rock Light is bearing 000°T at 0.35 mile. You are now governed by which Navigation Rules?	Inland Rules	Local Pilot Rules	International Rules	Coastal Fishery Rules
5	16510	B	At 0728, Race Rock Light is bearing 282°T at 3.8 miles, and the closest point on Fishers Island is at a radar range of 2.0 miles. What speed have you been making since you changed course at 0705?	9.2 knots	9.8 knots	10.6 knots	11.4 knots
5	16511	D	At 0728, you change course to 080°T. When steady on course, the standard magnetic compass reads 097°. Which statement is TRUE?	The gyro course is 083°pgc.	The magnetic heading is 090°.	The deviation is 1.0°E.	The magnetic compass error is 17°W.
5	16512	C	At 0748, you take the following Loran-C readings:  9960-W-14651.0 9960-X-26034.8 9960-Y-43943.8  What is the approximate depth of water at this position?	325 feet	175 feet	130 feet	104 feet
5	16513	A	At 0748, you change course to 160°T. What loran reading can you follow to remain on this course?	9960-W-14651.0	9960-W-14660.0	9960-Y-43852.0	9960-Y-43943.8
5	16514	D	At 0815, Montauk Pt. Light House is bearing 167°T, Shagwong Pt. has a radar range of 4.5 miles, and Cerberus Shoal "9" Buoy is bearing 284°T. If the engine is making turns for 10 knots, what was the set and drift of the current since 0748?	Set 065°T, drift 1.1 knots	Set 065°T, drift 2.4 knots	Set 245°T, drift 1.1 knots	Set 245°T, drift 2.4 knots
5	16515	B	What action should you take to compensate for the above current?	Continue on the same course and speed.	Alter your course to the left.	Slow to 8.5 knots.	Alter your course to the right.
5	16516	D	At 0815, visibility is excellent and you can see Montauk Point. Montauk Point is _____.	low and rocky with scattered small pine trees	a low lying wetland	a flat wooded plain	a high sandy bluff

5	16517	D	At 0815, you change course to 079°T and head for the entrance of Great Salt Pond on Block Island. To compensate for a northerly wind, you estimate a 5° leeway is necessary. What course should you steer per gyrocompass to make good 079°T?	079°pgc	076°pgc	074°pgc	071°pgc
5	16518	A	At 0845, Montauk Pt. Light is bearing 205°T at a radar distance of 6.6 miles. What is your speed made good from your 0815 position?	8.2knots	9.2 knots	10.0 knots	10.5 knots
5	16519	D	As you head toward Great Salt Pond, visibility is unlimited. At what time will you lose sight of Montauk Pt. Light?	0905	0928	0950	It will remain visible to Great Salt Pond.
5	16520	C	Which chart should you use to enter Great Salt Pond?	13214	13205	13217	13207
5	16538	A	At 2216 your position is LAT 41°16.0'N, LONG 72°08.0'W. Which statement is TRUE?	You are in the red sector of New London Harbor Light.	Your fathometer reads approximately 40 feet.	You can follow loran reading 9960-Y-43990 to remain clear of all dangers until west of Stratford Shoal.	Little Gull Island Light bears 339°T at 4.3 miles.
5	16539	B	If you estimate 3° leeway due to northerly winds, which course will you steer per standard magnetic compass (psc) to make good 255°T?	267°psc	270°psc	272°psc	274°psc
5	16540	A	You sight Bartlett Reef Light in range with New London Harbor Light bearing 038°pgc. At the time of the bearing, the helmsman reports he was heading 253°pgc and 269° per standard magnetic compass. What is the deviation for that heading?	1°E	1°W	4°E	4°W
5	16541	A	At 2255 you take the following visual bearings.  Saybrook Breakwater Light 333°pgc Little Gull Island Light 094°pgc Horton Point Light 211°pgc  What is your position?	LAT 41°13.6'N, LONG 72°19.2'W	LAT 41°13.8'N, LONG 72°19.6'W	LAT 41°14.0'N, LONG 72°19.0'W	LAT 41°14.2'N, LONG 72°19.7'W

5	16542	D	<p>At 2308 your position is LAT 41°12.7'N, LONG 72°22.8'W.</p> <p>You steer a course to make good 255°T from this position. At 2310 you receive a distress call from a vessel anchored 2.1 miles due north of Mattituck Inlet Light. If you change course at 2314, what is the course to steer per gyrocompass to arrive at the distress site if you allow 2° leeway for northerly winds, 3°E gyro error and correct your course for a current of 073°T at 1.3 knots?</p>	208°pgc	212°pgc	216°pgc	220°pgc
5	16543	C	<p>Based on the information in the previous question, what is your ETA at the distress scene?</p>	0006	0010	0016	0021
5	16544	D	<p>At 2347 you are advised that your assistance is no longer needed. At 2350 you change course to make good 268°T. At 0015 you take the following round of bearings:</p> <p>Kelsey Point Breakwater light 024°pgc  Horton Point Light 100°pgc  Falkner Island Light 333°pgc</p> <p>At 0030 Falkner Island Lt. bears 000°T at 5.9 miles.</p> <p>What is the course and speed made good between 0015 and 0030?</p>	CMG 262°T, SMG 10.4 knots	CMG 268°T, SMG 10.8 knots	CMG 268°T, SMG 10.4 knots	CMG 272°T, SMG 10.8 knots
5	16545	D	<p>At 0030 you alter course and speed to make good 265°T at 10 knots. What is your ETA at a point where Stratford Shoal Middle Ground Light is abeam?</p>	0218	0223	0228	0233
5	16546	C	<p>At 0100 you notice that the wind has become SSW'ly and has freshened. At 0200 you sight Stratford Point Lighted Bell Buoy "18" bearing 268°pgc. At 0215 the buoy bears 269°pgc. Which statement is TRUE?</p>	You should alter course to the right to increase the rate of the bearing change.	You are making more speed over the ground than you estimated.	You should alter course to decrease the distance that you will pass off Middle Ground Shoal.	You can hold the present course and safely pass buoy "18".

			You are underway in the vicinity of Block Island and obtain the following lines of position:  Montauk Point Light            267°pgc Block Island Southeast Light   030°pgc Radar Bearing to Block Island Southwest Point (tangent) 352°pgc					
5	16556	B	What is your position at the time of these sightings?	LAT 41°05.2'N, LONG 71°36.2'W	LAT 41°05.3'N, LONG 71°35.8'W	LAT 41°05.4'N, LONG 71°36.0'W	LAT 41°05.4'N, LONG 71°35.9'W	
5	16557	C	Which course would you steer by your standard magnetic compass to make good a course of 275°T?	266°psc	272°psc	289°psc	294°psc	
5	16558	A	From your position you observe a rotating white and green light to the north. This light is most likely _____.	at an airport	on a naval mine-countermeasures vessel	"Block Island North Light"	on a vessel engaged in public safety activity	
5	16559	B	At 1800, your position is LAT 41°06.5'N, LONG 71°43.5'W. How should the buoy which bears 030°T from your position at a range of approximately 0.5 mile be painted?	Horizontally banded, red over green, with a red buoyancy chamber	Horizontally banded, green over red, with a green buoyancy chamber	Vertically striped, red and green	Solid red with green letters "BIS"	
5	16560	A	From your 1800 position, you steer a course of 355°psc at a speed of 10.0 knots. At 1830, your position is LAT 41°11.7'N, LONG 71°45.8'W. What are the set and drift of the current?	005°T, 1.0 knot	005°T, 0.5 knots	180°T, 0.5 knot	208°T, 1.0 knots	
5	16561	B	From your 1830 fix, you come left to a course of 290°T. Which statement concerning Watch Hill Light is TRUE?	The nominal range of its white light is 16 miles.	It displays both red and white lights.	Its horn blasts every 15 seconds in fog.	Its geographic range is 18.5 miles at a 35-foot (10.7 meters) height of eye.	
5	16562	C	At 1850, you obtain the following bearings and distance:  Block Island North Light   085°T Watch Hill Light            342°T 5.8 miles  What true speed did you make good between 1830 and 1850?	2.9 knots	5.7 knots	8.0 knots	8.7 knots	

5	16563	A	From your 1850 fix, you come left to a course of 280°T, while maintaining a speed of 10 knots. Which combination of available Loran-C lines would be best for position determination?	9960-Y and 9960-W	9960-X and 9960-Y	9960-W and 9960-X	All 3 combinations are equal.
5	16564	D	If your height of eye is 45 feet (13.7 meters), what is the approximate geographic range of Block Island North Light?	7.8 nm	8.9 nm	13.0 nm	16.7 nm
5	16565	B	You decide to use the 9960-Y and 9960-W rates. At 1915, you obtain the following readings:  9960-Y-43937.5 9960-W-14651.2  What is your 1915 position?	LAT 41°13.6'N, LONG 71°54.0'W	LAT 41°13.5'N, LONG 71°53.4'W	LAT 41°13.4'N, LONG 71°53.1'W	LAT 41°14.4'N, LONG 71°53.7'W
5	16566	C	If you were to head into New London Harbor, which chart should you switch to for the best detail?	13209	13212	13213	13214
5	16567	C	From your 1915 position, you come left and set a course for Gardiners Point. At 1930, your position is LAT 41°12.7'N, LONG 71°56.8'W. What type of bottom is charted at this position?	Blue mud, gritty shells	Buried mussels, gritty shells	Blue mud, gray sand	Bumpy mud with gravel surface
5	16568	A	From your 1930 position, you plot a course to pass 0.5 mile due south of Race Rock Light. If your vessel's speed is 8.0 knots, the current's set and drift are 040°T at 1.4 knots, and a south wind produces a 3° leeway, what true course should you steer to make good your desired course?	275°T	280°T	290°T	294°T
5	16569	B	The short-long dashed magenta line around Gardiners Island marks _____.	a regulated anchorage	fish trap areas	an area closed to the public	underwater cables
5	16570	C	NOAA VHF-FM weather broadcasts from Providence, RI are on _____.	162.25 MHz	162.30 MHz	162.40 MHz	162.55 MHz
5	16606	D	Your position is LAT 40°59.0'N, LONG 73°06.2'W. What is the course per standard magnetic compass to New Haven Harbor Lighted Whistle Buoy "NH"?	035°	046°	049°	052°

5	16607	D	You depart from the position in the previous question at 2114 and make good 12 knots on a course of 040°T. At what time will you sight New Haven Light if the visibility is 11 miles?	The light is visible at 2114.	2140	2152	2159	
5	16608	A	At 2142, you take the following bearings:  Stratford Point Light                    331°T Stratford Shoal Middle Ground Light 280°T Old Field Point Light                    223°T  What is your 2142 position?	LAT 41°03.0'N, LONG 73°01.7'W	LAT 41°03.1'N, LONG 73°02.1'W	LAT 41°03.1'N, LONG 73°01.3'W	LAT 41°03.3'N, LONG 73°01.9'W	
5	16609	D	What was the speed made good between 2114 and 2142?	12.3 knots	12.0 knots	11.7 knots	11.4 knots	
5	16610	C	At 2142, you change course to make good 030°T and increase speed to 14 knots. You rendezvous with another vessel and receive fresh supplies while off New Haven Harbor lighted whistle buoy "NH". What is the light characteristic of this buoy?	..	..	..	..	
5	16611	C	At 0109 you get underway, and at 0112 you take the following Loran-C readings:  9960-W-15026.9 9960-X-26536.9 9960-Y-44015.7  What is your 0112 position?	LAT 41°11.2'N, LONG 72°51.7'W	LAT 41°11.4'N, LONG 72°50.5'W	LAT 41°11.4'N, LONG 72°51.3'W	LAT 41°11.8'N, LONG 72°51.5'W	
5	16612	A	At 0112, what is the approximate depth under the keel?	38 feet (11.5 meters)	47 feet (14.2 meters)	51 feet (15.5 meters)	57 feet (17.3 meters)	
5	16613	B	At 0112, you are on course 124°T and turning for 12.0 knots. What course will you make good if the current is 255°T at 1.2 knots?	132°	129°	120°	118°	
5	16614	A	Branford Reef is _____.	completely submerged at all stages of the tide	a hard sand shoal	surrounded by rocks awash at low water spring tides	a small, low, sandy islet surrounded by shoal water	
5	16615	A	At 0112, the radar range to Branford Reef Light is 2.9 miles. At 0125, the range is 3.6 miles. What is the position of your 0125 running fix if you are steering 124°T at 12 knots?	LAT 41°09.7'N, LONG 72°48.1'W	LAT 41°09.7'N, LONG 72°48.7'W	LAT 41°09.8'N, LONG 72°47.2'W	LAT 41°10.2'N, LONG 72°47.7'W	

5	16616	B	At 0130, your position is LAT 41°09.3'N, LONG 72°46.9'W when you change course to 086°T. If you make good 086°T, what is the closest point of approach to Twenty-Eight Foot Shoal Lighted Buoy?	0.7 mile	0.9 mile	1.1 miles	1.2 miles
5	16617	C	At 0200, you take the following bearings:  Falkner Island Light      004.5°T Kelsey Pt. Breakwater Lt. 054.0°T Horton Point Light        115.0°T				
5	16618	B	What were the set and drift from 0130?	260° at 0.5 knot	080° at 1.0 knot	260° at 1.0 knot	There is no current.
5	16618	B	What is the distance from your 0200 position to the point where Twenty-Eight Foot Shoal lighted buoy is abeam to starboard?	6.6 miles	6.9 miles	7.1 miles	7.3 miles
5	16619	D	The shoreline along Rocky Point should give a good radar return because _____.	the lookout tower is marked with radar reflectors	of offshore exposed rocks	submerged reefs cause prominent breakers	the shore is bluff and rocky
5	16620	B	You sight Bartlett Reef Light in line with New London Harbor Light bearing 043°pgc. You are heading 088°pgc and 098.5° per standard magnetic compass at the time of the observation. Which statement is TRUE?	The true heading at the observation was 090°.	The deviation is 1.5°E by observation.	The magnetic compass error is 9.5°W.	The gyro error is 2°E.
5	16638	A	At 0400 you take the following loran readings:  9960-X-25841.8 9960-Y-43736.7  From your 0400 fix, you steer a course to make good 347°T at 12.5 knots. Visibility is good. What is the earliest time you can expect to raise Montauk Point Light? (Nominal range - 24 miles, height above water - 168 feet)	The light is visible at 0400.	0426	0435	0442
5	16639	A	You estimate the current to be 125° at 0.6 knot, and the wind is westerly causing 3° of leeway. What course should you steer per gyro compass to make good 347°T while turning for 12.5 knots?	340° pgc	343° pgc	346° pgc	349° pgc

			At 0445 you take the following lines of position:  Montauk Point Light                    292°pgc Block Island Southeast Point Light  024°pgc					
5	16640	B	What was the current encountered since your 0400 fix?	004°, 0.7 knot	004°, 0.9 knot	184°, 0.7 knot	184°, 0.9 knot	
5	16641	D	At 0455 you encounter fog and slow to 5 knots. At 0500, you obtain a radar fix from the following information:  Radar range to Montauk Point is                    9.1 miles. Tangent bearing to western edge of Block Is. is 015°pgc. Distance off the nearest part of Block Is. is        5.9 miles.	LAT 41°02.8'N, LONG 71°39.5'W	LAT 41°02.9'N, LONG 71°39.8'W	LAT 41°03.1'N, LONG 71°39.6'W	LAT 41°03.5'N, LONG 71°39.3'W	
5	16642	C	Based on your 0500 fix, which statement is TRUE?	You are seaward of the 120 fathom curve.	The course made good between 0445 and 0500 was 345°T.	You should alter course to port to clear Southwest Ledge Shoal.	A radar contact bearing 020°T at 4.8 miles is buoy "2A".	
5	16643	C	At 0520 your position is LAT 41°07.2'N, LONG 71°41.6'W. You set course to leave Race Rock Light abeam to starboard at 0.5 mile. What is the course to steer per standard magnetic compass? (Assume no current)	301.5°	305.0°	307.5°	309.0°	
5	16644	A	Visibility becomes variable in patchy fog and you maintain 5 knots speed. At 0610 you sight Montauk Point Light bearing 239°pgc, and at 0630 you sight Watch Hill Point Light bearing 333°pgc. What is the position of your 0630 running fix?	LAT 41°08.3'N, LONG 71°45.4'W	LAT 41°08.2'N, LONG 71°45.8'W	LAT 41°08.1'N, LONG 71°45.1'W	LAT 41°08.0'N, LONG 71°45.2'W	
5	16645	A	At 0630 you increase speed to 12.0 knots. At 0645 Race Rock Light bears 294°pgc. At 0700 Race Rock Light bears 293°pgc. Based on this, you should _____.	alter course to port	maintain course and speed	alter course to starboard	maintain course and reduce speed	



5	16715	A	From your 0600 position, what is the course per gyrocompass to leave Watch Hill Light abeam to starboard at 2.0 miles if a southerly wind is producing 3° of leeway?	252°pgc	256°pgc	258°pgc	262°pgc
5	16716	C	At 0645, Watch Hill Point (left tangent) bears 314.5°T at 2.75 miles. What was the speed made good between 0600 and 0645?	8.1 knots	9.8 knots	10.7 knots	11.4 knots
5	16717	B	At 0705, you take the following bearings: Watch Hill Light 030.5°pgc Latimer Reef Light 329.0°pgc Race Rock Light 262.0°pgc  What was the true course made good between 0645 and 0705?	252°T	256°T	263°T	266°T
5	16718	C	At 0705, you change course to head for The Race. You wish to leave Race Rock Light bearing due north at 0.4 mile. If the current is 100°T, at 2.8 knots, and you are turning for 12.0 knots, what course (pgc) should you steer?	250°pgc	255°pgc	263°pgc	267°pgc
5	16719	B	You are bound for New London. Where will you cross the demarcation line and be governed by the Inland Rules of the Road?	You are already governed by the Inland Rules.	In the Race	Above the Thames River Bridge	You will not be governed by the Inland Rules.
5	16720	A	In order to check your compasses, you sight North Dumpling Island Light in line with Latimer Reef Light bearing 074° pgc. The helmsman was steering 303°pgc and 315° per standard magnetic compass at the time. Which of the following is TRUE?	The gyro error is still 2°E.	The deviation based on the observation is 15°W.	The magnetic compass error is 12°W.	The true line of the range is 072°.
5	16738	D	At 2212 you take the following loran readings:  9960-W-14715.8 9960-X-25991.2 9960-Y-43764.8  What is the course to steer, per gyrocompass from your 2212 position, to leave Montauk Point Buoy "MP" abeam to port at 1 mile if easterly winds are causing 3° of leeway?	027° pgc	030° pgc	032° pgc	035° pgc

5	16739	A	What is the earliest time you should sight Montauk Point Light (nominal range - 24 miles) if you are turning for 9.2 knots? Visibility is 5 nautical miles.	The light is visible at 2212	2221	2243	You will not sight the light on this course.
5	16740	C	At 2245 visibility improves and Montauk Point Light bears 355°pgc. At 2314 Montauk Point Light bears 331°pgc, and at 2329 the light bears 311°pgc. Based on your 2329 running fix which statement is TRUE?	You are shoreward of the 90 foot curve.	Your fathometer reads about 136 feet.	You are being set to the left of the track.	You allowed too much leeway for the easterly winds.
5	16741	A	At 2346 Montauk Point Light bears 285°pgc, and the radar range to Montauk Point is 5.9 miles. You are steering to make good 034°T. In order to remain westward of Southwest Ledge you should _____.	come left before the loran reads 9960-X-25900 or less	remain on your present course and you will clear Southwest Ledge	keep Block Island North Light bearing 033°T or less	alter course to the right when Block Island Aerobeacon bears 055°T
5	16742	D	At 2352 you hear a MAYDAY call from a vessel reporting her position as 1.5 miles due east of Block Island Southeast Point Light. What is the course to steer, per gyrocompass to the distress site, if you change course at midnight and allow 1° leeway for easterly winds?	049.5°pgc	052.5°pgc	055.5°pgc	059.0°pgc
5	16743	D	At 0040 you are south of Lewis Point when you receive word that the distress is terminated. You alter course to head for The Race. At 0052 you take the following relative bearings because the starboard gyro repeater is inoperative. Your heading at each bearing was 285°pgc. What is your 0052 position?  Race Rock Light 002° Watch Hill Light 034° Block Island North Light 122°	LAT 41°08.8'N, LONG 71°41.4'W	LAT 41°09.0'N, LONG 71°42.3'W	LAT 41°09.0'N, LONG 71°41.1'W	LAT 41°09.1'N, LONG 71°41.7'W
5	16744	D	You continue to steer 285°pgc from your 0052 fix. Your speed is 9.2 knots. What is the course per standard magnetic compass?	273.5°	276.0°	298.0°	302.0°
5	16745	A	At 0100 Race Rock Light bears 001° relative, and at 0110 it bears 000° relative. Based on this you know you _____.	are being set to the right of the track	are making good more than 9.2 knots	are making good less than 9.2 knots	have an unknown gyro error

5	16746	B	In order to check your compasses, you sight Race Rock Light in line with New London Harbor Light bearing 336° per gyrocompass. The helmsman reports the vessel was heading 275.0°pgc and 290.5° per standard magnetic compass at the time of the observation. Which statement is TRUE?	The gyro error is now 2°E.	The deviation table is correct for that heading.	The vessel should be swung to check the deviation table.	The compass error is 0.5°W.	
5	16838	B	At 0800 you obtain the following Loran-C readings:  9960-X-27101 9960-Y-41612 9960-Z-58737  What is your vessel's position?	LAT 37°20.9'N, LONG 75°29.5'W	LAT 37°21.0'N, LONG 75°32.0'W	LAT 37°19.8'N, LONG 75°30.6'W	LAT 37°20.8'N, LONG 75°31.2'W	
5	16839	B	At 0800 you reduce speed from sea speed. Speed was reduced by the time you passed abeam of Cape Charles Lighted Bell Buoy "12" at 0814. At this time Buoy "12" was abeam on your starboard side at a distance of 0.65 mile. Assuming you continue to make good your course of 202°T, what is your new speed if you pass abeam of Cape Charles Lighted Bell Buoy "14" at a distance of 1.5 miles at 0907?	13.6 knots	12.9 knots	12.3 knots	12.0 knots	
5	16840	B	Visibility is exceptionally clear. At approximately what distance did Chesapeake Light become visible?	19.2 miles	21.0 miles	22.7 miles	24.0 miles	
5	16841	C	At 0907 you change course to 224°T, and your speed is now 13.0 knots. At 0939 Chesapeake Light is bearing 168°T at a distance of 7.1 miles, and Cape Henry Light is bearing 246°T. What were the set and drift since 0907?	326°T at 0.7 knot	326°T at 1.4 knots	146°T at 1.4 knots	146°T at 0.7 knots	
5	16842	C	From your 0939 position, you wish to change course in order to pass 0.3 mile north of Buoy "NCA" (LL#375) in the inbound traffic lane. You estimate the current to be 150° T at 2.0 knots. What course should you steer to make good the desired course? Your speed is still 13.0 knots.	232°T	235°T	245°T	249°T	

5	16843	B	At what time will you enter the inbound traffic lane with Buoy "NCA" (LL #375) bearing 180°T at 0.3 mile?	1003	0957	0951	0948	
5	16845	C	After the pilot boards, he tells you the gyro has a 2°E error. If this is true, what should the bearing be along Trestle C of the Chesapeake Bay Bridge-Tunnel as your vessel passes abeam of it?	052°pgc	049°pgc	047°pgc	045°pgc	
5	16846	B	Your vessel's heading is 330°pgc and 345°psc with a 2°E gyro error. What is the deviation on this heading?	0°	3°W	4°E	7°W	
5	20106	C	You are steaming at 22 knots and burning 319 barrels of fuel per day. You must decrease your consumption to 137 barrels per day. What must you reduce your speed to in order to burn this amount of fuel?	12.4	14.8	16.6	18.2	
5	20107	C	You are steaming at 19 knots and burning 440 barrels of fuel per day. You must decrease your consumption to 137 barrels per day. What must you reduce your speed to in order to burn this amount of fuel?	18.2	14.8	12.9	11.1	