

## U.S.C.G. Merchant Marine Exam

Master Less than 100 Gross Registered Tons

Q350 Navigation Problems - Chart 12221TR

(Sample Examination)

**Choose the best answer to the following Multiple Choice Questions.**

The following ten problems are to be answered by plotting on chart 12221 TR, Chesapeake Bay, and using the supporting publications. Each of the ten questions is completely independent of any other question on this exam.

The following information is applicable to all ten questions.

(The abbreviation "psc" stands for "per standard magnetic compass".)

VARIATION IS 9° W

DEVIATION TABLE

HDG.MAG. DEVIATION

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000°	2.0°E
030°	3.0°E
060°	4.0°E
090°	2.0°E
120°	1.0°E
150°	1.0°W
180°	2.0°W
210°	3.5°W
240°	3.0°W
270°	1.5°W
300°	0.0°
330°	1.5°E

1. At 1239 your GPS 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 GPS indicates your position as LAT 36°54.8'N, LONG 75°39.8'W. What were the set and drift?
- (A) 130°T at 1.2 knots
  - (B) 156°T at 0.6 knot
  - (C) 335°T at 1.0 knot
  - (D) 352°T at 1.3 knots

*If choice A is selected set score to 1.*

2. 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 information which of the following is true?
- (A) the deviation is 0°
  - (B) there is no compass error
  - (C) you should swing your vessel and check the deviation table
  - (D) there is a local magnetic disturbance

*If choice A is selected set score to 1.*

3. At 0856 your GPS position is LAT 37°01.6'N, LONG 75°31.7'W. At 0945 your position is LAT 36°57.0'N, LONG 75°41.0'W. What was the speed made good between the fixes?
- (A) 8.9 knots
  - (B) 9.6 knots
  - (C) 8.4 knots
  - (D) 10.7 knots

*If choice D is selected set score to 1.*

4. 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?
- (A) 283.5°psc
  - (B) 286.0°psc
  - (C) 280.5°psc
  - (D) 290.0°psc

*If choice B is selected set score to 1.*

5. What is the course per standard magnetic compass from Chesapeake Light to North Chesapeake Entrance Lighted Whistle Buoy NCA?

- (A) 321°psc
- (B) 326°psc
- (C) 323°psc
- (D) 316°psc

*If choice A is selected set score to 1.*

6. 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?

- (A) No correction is necessary
- (B) -0.1 feet
- (C) +1.9 feet
- (D) -0.4 feet

*If choice D is selected set score to 1.*

7. 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?

- (A) LAT 36°59.0'N, LONG 75°52.9'W
- (B) LAT 36°58.6'N, LONG 75°52.2'W
- (C) LAT 36°57.9'N, LONG 75°53.2'W
- (D) LAT 36°58.1'N, LONG 75°52.6'W

*If choice A is selected set score to 1.*

8. 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?

- (A) 1339
- (B) 1404
- (C) 1349
- (D) 1342

*If choice B is selected set score to 1.*

9. 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) \_\_\_\_\_.

- (A) fish trap area
- (B) pilotage area
- (C) explosive anchorage
- (D) danger zone

*If choice B is selected set score to 1.*

10. Local magnetic disturbances of up to how many degrees have been noted from Cape Henry to Currituck Beach Light?

- (A) 11 degrees
- (B) 17 degrees
- (C) 2 degrees
- (D) 6 degrees

*If choice D is selected set score to 1.*