

U.S.C.G. Merchant Marine Exam

Master TV to Master Less than 500 Gross Registered Tons
Oceans or Near Coastal

Q134 Navigation Problems - Near Coastal

(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. 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?
- (A) -12.3%
 - (B) +12.3%
 - (C) +5.6%
 - (D) -5.6%

If choice D is selected set score to 1.

2. 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?
- (A) 14.8
 - (B) 12.4
 - (C) 16.6
 - (D) 18.2

If choice C is selected set score to 1.

3. Gyrocompass repeaters reproduce the indications of the master gyrocompass. They are _____.
- (A) accurate only in the Polar regions
 - (B) accurate electronic servomechanisms
 - (C) hand operated
 - (D) accurate only if the vessel is underway

If choice B is selected set score to 1.

4. How can the accuracy of an azimuth circle be checked?
- (A) aligning the relative bearing markings so that 000° is on the lubber's line and the line of sight passes over the center of the compass
 - (B) comparing observed azimuths at different altitudes with computed values at the times of observation to see if the difference is constant
 - (C) ensuring that the alignment marks on the inner face of the circle are in line with those on the repeater on relative bearings of 000° and 090°
 - (D) sighting a terrestrial range in line and comparing the observed bearing against the charted bearing

If choice B is selected set score to 1.

Q134 Navigation Problems - Near Coastal
U.S.C.G. Merchant Marine Exam
Master TV to Master Less than 500 Gross Registered Tons Oceans or Near Coastal
Illustrations: 0

5. 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?
- (A) 1737, 9 June
 - (B) 0737, 9 June
 - (C) 0737, 10 June
 - (D) 1937, 9 June

If choice B is selected set score to 1.

6. 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?
- (A) LAT 22°42'S, LONG 43°14'W
 - (B) LAT 22°55'S, LONG 43°05'W
 - (C) LAT 22°39'S, LONG 43°17'W
 - (D) LAT 22°47'S, LONG 43°10'W

If choice B is selected set score to 1.

7. 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?
- (A) +1.9%
 - (B) -1.9%
 - (C) -4.7%
 - (D) +4.7%

If choice A is selected set score to 1.

8. 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?
- (A) 12.5 knots
 - (B) 12.2 knots
 - (C) 12.8 knots
 - (D) 14.4 knots

If choice C is selected set score to 1.

9. 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° .

| HEADING | HEADING | HEADING |
|----------------|----------------|----------------|
| <u>PSC-PGC</u> | <u>PSC-PGC</u> | <u>PSC-PGC</u> |
| 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° |

- (A) 0.5°E
- (B) 1.0°W
- (C) 2.5°E
- (D) 2.5°W

If choice A is selected set score to 1.

10. 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?

- (A) 1°E
- (B) 1°W
- (C) 2°E
- (D) 2°W

If choice D is selected set score to 1.