

U.S.C.G. Merchant Marine Exam

OUPV to Master or Mate Oceans or Near Coastal
Less than 200 GRT

Q159 Navigation Problems – Oceans
(Sample Examination)

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

1. 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)?
- A. 1148
 - B. 1151
 - C. 1156
 - D. 1202

Correct answer: C

2. 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?
- A. 0534
 - B. 0552
 - C. 0631
 - D. 0645

Correct answer: B

3. 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?
- A. 72.8 tons
 - B. 68.8 tons
 - C. 43.4 tons
 - D. 57.6 tons

Correct answer: B

4. 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?

NP-0003

ZONE TIME	GHA	OBSERVED ALTITUDE (Ho)	DECLINATION
0830	21°01.8'	44°16.4'	N 21°29.2'
0930	36°01.7'	57°25.5'	N 21°28.8'
1130	66°01.6'	81°30.2'	N 21°28.0'

- A. LAT 28°35.0'N, LONG 71°08.5'W
- B. LAT 28°39.8'N, LONG 71°04.0'W
- C. LAT 28°40.5'N, LONG 71°13.0'W
- D. LAT 28°43.3'N, LONG 71°02.5'W

Correct answer: A

5. 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.
- A. 4559 miles, 121°T
 - B. 4688 miles, 126°T
 - C. 4457 miles, 126°T
 - D. 4682 miles, 059°T

Correct answer: A

6. 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?
- A. 23°07.8'N
 - B. 23°12.3'N
 - C. 24°11.9'N
 - D. 24°18.6'N

Correct answer: A

7. 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?
- A. 26°25.0'N
 - B. 26°27.6'N
 - C. 26°29.8'N
 - D. 26°32.0'N

Correct answer: B

8. The navigational triangle uses parts of two systems of coordinates, one of which is the celestial equator system, which is the other system?
- A. Horizon system
 - B. Ecliptic system
 - C. Astronomical system
 - D. Terrestrial system

Correct answer: A

9. You are on course 312°T. To check the speed of your vessel you should observe a celestial body on which bearing?
- A. 312°
 - B. 222°
 - C. 090°
 - D. 000°

Correct answer: A

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Illustrations:0

10. 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.

- A. 160°T
- B. 153°T
- C. 135°T
- D. 149°T

Correct answer: B