

U.S.C.G. Merchant Marine Exam
Master Uninspected Fishing Vessels
Q186 Navigation Problems – Oceans
(Sample Examination)

Choose the best answer to the following Multiple Choice Questions:

1. Determine the distance from LAT $63^{\circ}54.0'N$, LONG $04^{\circ}52.0'E$ to LAT $63^{\circ}54.0'N$, LONG $18^{\circ}24.0'W$ by parallel sailing.
- (A) 608.6 miles
 - (B) 610.9 miles
 - (C) 612.3 miles
 - (D) 614.2 miles

If choice D is selected set score to 1.

2. On 21 April your 1542 zone time DR position is LAT $28^{\circ}54.0'S$, LONG $19^{\circ}07.0'W$. At that time, you observe the Sun bearing $299^{\circ}psc$. The chronometer reads 04h 44m 11s, and the chronometer error is 01m 54s fast. The variation is $3^{\circ}E$. What is the deviation of the standard compass?

- (A) $0.3^{\circ}W$
- (B) $0.4^{\circ}E$
- (C) $2.7^{\circ}W$
- (D) $2.7^{\circ}E$

If choice A is selected set score to 1.

3. On 16 July your 1810 zone time DR position is LAT $24^{\circ}16.5' S$, LONG $162^{\circ}52.0' E$. Considering their magnitude, azimuth, and altitude, which group includes the three bodies best suited for a fix at star time?
- (A) Jupiter, Alpheratz, Alphecca
 - (B) Arcturus, Spica, Antares
 - (C) Vega, Hadar, Venus
 - (D) Pollux, Mars, Deneb

If choice A is selected set score to 1.

4. On 28 September in DR position LAT $24^{\circ}12.0'S$, LONG $85^{\circ}25.0'E$, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears $094^{\circ}psc$. The chronometer reads 11h 29m 42s and is 03m 30s slow. Variation in the area is $4^{\circ}W$. What is the deviation of the magnetic compass?
- (A) $1.5^{\circ}W$
 - (B) $2.1^{\circ}W$
 - (C) $1.8^{\circ}E$
 - (D) $2.4^{\circ}E$

If choice D is selected set score to 1.

5. On 16 December your 1810 zone time DR position is LONG $129^{\circ}46.5' W$. At that time you observe Polaris with a sextant altitude (hs) of $23^{\circ}56.8'$. 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) $23^{\circ}07.8'N$
 - (B) $23^{\circ}12.3'N$
 - (C) $24^{\circ}11.9'N$
 - (D) $24^{\circ}18.6'N$

If choice A is selected set score to 1.

6. On 26 September your 0830 zone time DR position is LAT $23^{\circ}04.0'N$, LONG $129^{\circ}16.0'E$. Your vessel is on course $119^{\circ}T$ at a speed of 20.0 knots. What is the zone time of local apparent noon (LAN)?
- (A) 1158
 - (B) 1205
 - (C) 1210
 - (D) 1214

If choice C is selected set score to 1.

7. On 18 October your 1330 ZT DR position is LAT $27^{\circ}32.0'N$, LONG $154^{\circ}47.0'W$. You are on course $115^{\circ}T$ at a speed of 20 knots. What will be the zone time of sunset at your vessel?
- (A) 1715
 - (B) 1729
 - (C) 1742
 - (D) 1751

If choice C is selected set score to 1.

8. Determine the great circle distance and initial course from LAT $35^{\circ}08.0'S$, LONG $19^{\circ}26.0'E$ to LAT $33^{\circ}16.0'S$, LONG $115^{\circ}36.0'E$.
- (A) 4682 miles, $059^{\circ}T$
 - (B) 4457 miles, $126^{\circ}T$
 - (C) 4688 miles, $126^{\circ}T$
 - (D) 4559 miles, $121^{\circ}T$

If choice D is selected set score to 1.

9. 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.

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BODY	ZONE TIME	GHA	OBSERVED ALTITUDE (Ho)	DECLINATION
Fomalhaut	0452	272°03.3'	46°05.3'	S 29°43.1'
Canopus	0459	162°05.5'	41°48.9'	S 52°41.0'
Achernar	0510	236°28.2'	60°26.5'	S 57°19.6'

- (A) LAT 29°46.0'S, LONG 138°54.0'E
- (B) LAT 29°49.2'S, LONG 138°57.0'E
- (C) LAT 29°56.0'S, LONG 139°03.8'E
- (D) LAT 30°07.5'S, LONG 138°55.2'E

If choice B is selected set score to 1.

10. 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?

- (A) LAT 38°26.4'N
- (B) LAT 38°30.2'N
- (C) LAT 38°36.0'N
- (D) LAT 38°41.2'N

If choice C is selected set score to 1.