

U.S.C.G. Merchant Marine Exam

Master or Mate Less than 200 Gross Registered Tons

Q153 Navigation Problems – Chart 12221TR

(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

The following questions are to be answered by plotting on chart 12221 TR, Chesapeake Bay, and using the supporting publications.

Each question is completely independent of any other question on this exam.

The following information is applicable to all questions.

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

VARIATION IS 9° W

DEVIATION TABLE

HDG.MAG. DEVIATION

HDG.MAG.	DEVIATION
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. Your GPS position is 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 Lighted Bell Buoy "14" (LAT 37°07.4'N, LONG 75°41.0'W)?
- (A) 053°psc
 - (B) 049°psc
 - (C) 045°psc
 - (D) 040°psc

If choice C is selected set score to 1.

2. You are on course 027° per magnetic compass when you take the following bearings per magnetic compass:

New Point Comfort Spit Light "2" 253°

Horn Harbor Entrance Light HH 282°

Wolf Trap Light 348°

What is the position of the fix?

- (A) LAT 37°19.7'N, LONG 76°10.3'W
- (B) LAT 37°19.4'N, LONG 76°09.8'W
- (C) LAT 37°19.7'N, LONG 76°09.9'W
- (D) LAT 37°19.4'N, LONG 76°09.5'W

If choice C is selected set score to 1.

3. At 1256 your GPS position is LAT 36°57.0'N, LONG 75°41.0'W. At 1336 your position is LAT 37°07.5'N, LONG 75°39.1'W. What was the speed made good between the fixes?

- (A) 14.6 knots
- (B) 16.0 knots
- (C) 18.6 knots
- (D) 15.2 knots

If choice B is selected set score to 1.

4. The soundings on the chart are based on the depth of water available at _____.

- (A) mean high water
- (B) mean lower low water
- (C) mean low water
- (D) mean high water springs

If choice B is selected set score to 1.

5. Which of the following describes the abandoned lighthouse west of Cape Henry Light?

- (A) it is a low mound of rubble
- (B) it is painted black and white
- (C) it is a gray, pyramidal structure
- (D) it is a steel skeleton structure

If choice C is selected set score to 1.

6. 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 information which of the following is true?
- (A) you should apply 3° Easterly deviation to the bearing
 - (B) you know the compass error is 8° W
 - (C) you should suspect the compass may be affected by a local magnetic disturbance
 - (D) you know the deviation table is incorrect

If choice B is selected set score to 1.

7. At 1712 your GPS indicates a position of LAT $36^\circ 54.8'N$, LONG $75^\circ 39.8'W$. You are on course 319° per standard magnetic compass at a speed of 9.9 knots. At 1800 your GPS indicates your position at LAT $37^\circ 00.0'N$, LONG $75^\circ 45.8'W$. What were the set and drift?
- (A) $093^\circ T$ at 0.8 knot
 - (B) $267^\circ T$ at 1.3 knots
 - (C) $087^\circ T$ at 1.2 knots
 - (D) $262^\circ T$ at 0.9 knot

If choice C is selected set score to 1.

8. Your 1302 position is LAT $37^\circ 14.7'N$, LONG $76^\circ 22.7'W$. 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?
- (A) 1500
 - (B) 1451
 - (C) 1516
 - (D) 1505

If choice D is selected set score to 1.

9. What is the true heading to steer outbound in Thimble Shoal Channel if your engines are turning for 8.0 knots, the current is $050^\circ T$ at 1.0 knot and a northerly wind causes 3° of leeway?
- (A) $098^\circ T$
 - (B) $111^\circ T$
 - (C) $101^\circ T$
 - (D) $104^\circ T$

If choice B is selected set score to 1.

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10. What do the broken magenta lines (long and short dashes) in and around Mobjack Bay (LAT 37°20'N, LONG 76°22'W) indicate?

- (A) amphibious training areas
- (B) fish trap areas
- (C) grounds for dredge spoil
- (D) gunnery exercise areas

If choice B is selected set score to 1.