

U.S.C.G. Merchant Marine Exam  
Master/Chief Mate of Unlimited Tonnage  
Q107 Chart 12221TR  
(Sample Examination)

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

1. The Light List indicates that a light has a nominal range of 10 miles and is 11 feet high. If the visibility is 5 miles and your height of eye is 20 feet, at what approximate distance will you sight the light?
  - A. 6.3 miles
  - B. 7.4 miles
  - C. 8.4 miles
  - D. 9.0 miles

Correct answer: A

2. The following questions are to be answered using Chart 12221TR, Chesapeake Bay Entrance, and supporting publications.

You are southbound along the coast on a course of  $180^{\circ}T$  and the engine speed is 14 knots.

Your draft is 16 feet.

Gyro error is  $2^{\circ}W$ .

Use  $10^{\circ}W$  variation where required

At 2000 Hog Island Lighted Bell Buoy "12" bears  $199^{\circ}T$  and Buoy "GM" bears  $249^{\circ}T$ .

What is your position ?

- A.  $37^{\circ}23.5'N, 75^{\circ}32.2'W$
- B.  $37^{\circ}03.5'N, 75^{\circ}32.2'W$
- C.  $37^{\circ}03.5'N, 75^{\circ}02.2'W$
- D.  $37^{\circ}35.0'N, 75^{\circ}32.2'W$

Correct answer: A

3. From your 2000 position you change course to  $206^{\circ}T$ . What time would you expect to be abeam of Hog Island Buoy "12"?
  - A. 2026
  - B. 2021
  - C. 2031
  - D. 2040

Correct answer: A

4. You should expect to pass how far off buoy "12"?
  - A. 1.7 miles
  - B. 2.1 miles
  - C. 1.2 miles
  - D. 0.8 mile

Correct answer: D

5. At 2030 you take the following bearings:

Sand Shoal Inlet South Light - 275°T  
Cape Charles Light - 235°T

What is the set and drift from 2000 to 2030?

- A. 088° at 1.4 knots
- B. 268° at 0.7 knot
- C. 088° at 0.7 knot
- D. 268° at 1.4 knots

Correct answer: D

6. From your 2030 fix you change course to 195°T, and leave the engine speed at 14 knots.

At 2045, your position is Lat 37°13.50'N Long 075°38.05'W

Which statement is TRUE?

- A. Chesapeake Light bears 190° relative.
- B. Your fathometer reading is approximately 40 fathoms.
- C. Cape Charles Light bears 050° relative.
- D. Your vessel is located in a restricted area.

Correct answer: C

7. You continue to steer 195°T. You pass Cape Charles Lighted Bell Buoy "14", 0.9 miles abeam to starboard at 2111. What is your speed made good from 2045 to 2111?

- A. 13.7 knots
- B. 14.1 knots
- C. 14.5 knots
- D. 14.8 knots

Correct answer: D

8. What is your course made good from 2045 to 2111?

- A. 187°T
- B. 190°T
- C. 193°T
- D. 196°T

Correct answer: C

9. If you are going to head directly for Chesapeake Light from your 2111 fix, what is the course to make good?

- A. 190°T
- B. 193°T
- C. 196°T
- D. 199°T

Correct answer: A

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Illustrations:0

10. At 2200, you alter course to  $204^{\circ}\text{T}$ , at 14 knots. You expect a current on this leg of the trip, setting  $325^{\circ}$  at 1.5 knots. Which course should you steer per gyrocompass to make good the true course?
- A.  $194^{\circ}\text{pgc}$
  - B.  $190^{\circ}\text{pgc}$
  - C.  $184^{\circ}\text{pgc}$
  - D.  $201^{\circ}\text{pgc}$

Correct answer: D