

U.S.C.G. Merchant Marine Exam  
Master/Chief Mate Unlimited Tonnage  
Q107 Navigation Problems - Chart 13205TR  
(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 15 miles and your height of eye is 20 feet, at what approximate distance will you sight the light?
- (A) 9.0 miles
  - (B) 12.0 miles
  - (C) 10.0 miles
  - (D) 11.0 miles

*If choice A is selected set score to 1.*

2. The following questions are to be answered using Chart 13205 TR, Block Island Sound, and supporting publications.

There are fog patches.  
You are turning for 12.1 knots.  
Your draft is 22 feet.  
The gyro error is 3°W.

***DEVIATION TABLE***

<b><u>Magnetic Heading</u></b>	<b><u>Deviation</u></b>
180°	2.5°E
195°	2.0°E
210°	1.0°E
225°	0.5°W

At 2009 you are leaving New London Harbor with buoy "2" close abeam to port, Bartlett Reef Light is at a range of 2.9 nm. What is the true course to the Race that will leave Race Rock Light 0.8 mile abeam to port?

- (A) 164°
- (B) 169°
- (C) 172°
- (D) 166°

*If choice B is selected set score to 1.*

3. At 2016 you sight N. Dumpling Light in line with Latimer Reef Light (Fl 6 sec, 55 ft) bearing  $079^{\circ}$ pgc. At the time of the bearing the helmsman reported he was steering  $164^{\circ}$  pgc and  $172^{\circ}$  per standard magnetic compass. What is the deviation for that heading?
- (A)  $1^{\circ}$ E
  - (B)  $5^{\circ}$ W
  - (C)  $2^{\circ}$ W
  - (D)  $3^{\circ}$ E

*If choice D is selected set score to 1.*

4. At which point in the voyage is your vessel bound by the International Rules of the Roads (COLREGS)?
- (A) After passing between Montauk Point and Lewis Point on Block Island
  - (B) After crossing the line of the Territorial Sea
  - (C) At the mouth of New London Harbor
  - (D) Upon entering Block Island Sound

*If choice D is selected set score to 1.*

5. You will pass through the Race at approximately the time of maximum ebb current. As you APPROACH the Race from New London, how will your vessel be set?
- (A) to the left of the track line
  - (B) to the right of the track line
  - (C) forward along the track line
  - (D) towards New London along the track line

*If choice A is selected set score to 1.*

6. At 2030 you take the following radar ranges: Race Rock Light 2.1 miles Latimer Reef Light 6.4 miles If you estimate an average current of  $080^{\circ}$ T at 1.5 knots, which course will you steer per gyrocompass to leave Endeavor Shoals Gong Buoy bearing  $270^{\circ}$ T at 1.5 miles?
- (A)  $124^{\circ}$
  - (B)  $127^{\circ}$
  - (C)  $115^{\circ}$
  - (D)  $118^{\circ}$

*If choice B is selected set score to 1.*

7. The light on Block Island Sound South Entrance Obstruction Buoy "BIS" is reported extinguished. Which of the following will serve as a positive warning that you are being set onto the obstruction?

- (A) Race Rock Light bearing  $299^{\circ}T$  and decreasing
- (B) Shagwong Reef Lighted Bell Buoy "7SR" 3.1 miles off abeam
- (C) Soundings of less than 50 feet
- (D) Radar ranges to Southwest Point of less than 7.9 miles

*If choice A is selected set score to 1.*

8. At 2103 you take the following set of bearings: Watch Hill Point Light bears  $005^{\circ}$  true Montauk Point Light bears  $170^{\circ}$  true Determine your 2103 fix.

- (A) LAT  $41^{\circ}08.8'N$ , LONG  $71^{\circ}52.5'W$
- (B) LAT  $41^{\circ}09.1'N$ , LONG  $71^{\circ}52.2'W$
- (C) LAT  $41^{\circ}09.2'N$ , LONG  $71^{\circ}52.5'W$
- (D) LAT  $41^{\circ}09.0'N$ , LONG  $71^{\circ}52.9'W$

*If choice C is selected set score to 1.*

9. You round Montauk Point and steer to make good  $206^{\circ}T$ . Speed is increased to 13.0 knots. The current, if any, is unknown. The visibility has improved and is estimated to be 5 miles. At 2144 Montauk Point Light bears  $273^{\circ}T$ . At 2202 the same light bears  $320^{\circ}T$ . Which statement concerning your 2202 running fix is TRUE?

- (A) You are outside the boundary of the Territorial Sea and Contiguous Zone.
- (B) You are inside of the 90 foot curve.
- (C) The fathometer reads about 12 fathoms.
- (D) You are inside the lobster pot area.

*If choice C is selected set score to 1.*

10. At 2229 the gyro fails. What is the course to steer per standard magnetic compass to make good  $206^{\circ}T$ , if you allow  $3^{\circ}$  leeway for southeasterly winds?

- (A)  $220^{\circ}$
- (B)  $191^{\circ}$
- (C)  $217^{\circ}$
- (D)  $187^{\circ}$

*If choice C is selected set score to 1.*