

Demo PDF file. This file includes questions: 10 from 105. Full version of file looks the same as demo, but full version includes all questions. You may download file with all questions by link on bottom of this page

Q330 - Navigation Problems: Chart Plot

1. The following questions are based on Chart 12221TR, Chesapeake Bay Entrance, and the supporting publications. Your vessel draws 11 feet (3.3 meters) Your height of eye is 24 feet (7.3 meters) Gyro error is 2°W Variation is 10°W "Per standard magnetic compass" is abbreviated "psc" "Per gyrocompass" is abbreviated "pgc" DEVIATION TABLE Magnetic Heading Deviation 030° 1.5°E 060°

3.0°E 090° 2.5°E 120° 2.0°E 150° 1.0°W 180° 3.0°W
210° 1.0°W 240° 0.0° 270° 0.0° 300° 1.0°E 330°

1.0°E 360° 1.5°E At 0410, you take the following bearings: New Point Comfort Spit Light "2": 244°pgc Wolf Trap Light: 315°pgc What is your 0410 position?

- LAT 37°21.1'N, LONG 76°07.9'W
- LAT 37°21.0'N, LONG 76°08.1'W
- LAT 37°21.1'N, LONG 76°08.8'W
- LAT 37°21.2'N, LONG 76°08.3'W

Note:

The correct position is determined by converting gyro bearings to true bearings, calculating reciprocal bearings, and plotting lines of position on the chart. The intersection of these lines of position corresponds to LAT 37°21.0'N, LONG 76°08.1'W.

2. If the visibility is 10 miles and you are in the red sector, at what distance off should you sight Cape Henry Light?

- 15 miles
- 10 miles
- 8 miles
- 12 miles

Note:

Given a 10-mile visibility, the luminous range of Cape Henry Light's red sector is approximately 15 miles, indicating the expected sighting distance.

3. From your 0410 fix, what is the course per standard magnetic compass to enter York Spit Channel with buoy "29" close abeam to starboard?

- 172°psc
- 202°psc
- 176°psc
- 198°psc

Note:

The correct course to enter York Spit Channel with buoy "29" abeam to starboard is 198psc, determined by plotting a track line from the 0410 fix to the channel entrance and applying the appropriate true course, variation, and deviation corrections.

4. If you are making 8.3 knots over the ground, what is your ETA at the turning point in York Spit Channel at buoy "29"?

- 0448
- 0459
- 0509
- **0521**

Note:

The ETA at buoy "29" is calculated by dividing the charted distance to the buoy by the vessel's speed over the ground (8.3 knots) and adding the resulting travel time to the departure time. This calculation yields an ETA of 0521, making option D the correct answer.

5. You are entering the channel at buoy 29 and turning for 9 knots. An easterly wind is causing 3° of leeway and the current is 320°T at 1.2 knots. What true course should you steer to remain in the middle leg of York Spit Channel?

- 162°T
- 171°T
- 168°T
- **165°T**

Note:

To maintain the channel centerline, steer 165T, accounting for easterly wind-induced leeway and the current's effect.

6. Which publication contains specific information on the characteristics of Chesapeake Bay entrance?

- Navigator's Manual - Chesapeake Bay
- Chesapeake Bay Harbor-master's Manual
- Sailing Directions
- **Coast Pilot**

Note:

The Coast Pilot is the official U.S. publication providing detailed descriptions of coastal waters, including Chesapeake Bay entrance characteristics.

7. The Coast Guard announces that Chesapeake Channel is closed indefinitely due to a collision in the channel between Trestle "B" and "C" of the Chesapeake Bay Bridge and Tunnel. You exit York Spit Channel, leaving buoy "22" close abeam to port at 0.1 mile, and alter course to leave Horseshoe Crossing Lighted Bell Buoy "HC" abeam to port at 0.2 mile. What is the course per gyrocompass?

- **185°pgc**
- 188°pgc
- 194°pgc
- 191°pgc

Note:

The correct course per gyrocompass is 185pgc. This is determined by plotting arcs around buoys 22 and HC based on the specified distances, drawing a tangent line that maintains the required clearances with both buoys on the port side, measuring the true course of that line, and then correcting for gyro error.

8. After you enter Thimble Shoal Channel, you will alter course to pass between Trestle "A" and "B". Based upon your present position, passing buoy "12" to port, what is TRUE?

- You are required to proceed outbound in the North Auxiliary Channel to avoid ferry traffic
- Water depth is 38 feet.
- You may proceed outbound in Thimble Shoal Channel
- **You should cross the main channel and proceed outbound in the South Auxiliary Channel**

Note:

Answer D is correct; the charted traffic information for Thimble Shoal designates outbound traffic from your position as requiring use of the South Auxiliary Channel, necessitating a crossing of the main channel.

9. As you pass through the Chesapeake Bay Bridge and Tunnel, you sight Trestle "B" in line bearing 018°pgc. What is the gyro error by observation?

- 4°W
- **0°**
- 2°W
- 2°E

Note:

The observed gyro bearing matches the charted true bearing (018), indicating no discrepancy between the two and therefore a gyro error of 0.

10. You sighted Trestle "B" in line at 0706 and are steering 108°T. At 0731, Cape Henry Light bears 136°T Cape Charles Light bears 032.5°T Thimble Shoal Tunnel South Light bears 282°T What was the speed made good between 0706 and 0731?

- 9.4 knots
- 8.8 knots
- 9.2 knots
- **8.3 knots**

Note:

Speed made good is the distance between fixes divided by elapsed time. Measuring the charted distance between the 0706 and 0731 fixes and dividing by 25 minutes yields 8.3 knots.
