

**Demo PDF file. This file includes questions: 10 from 120. 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**

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## Q115 - 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": 242°T Wolf Trap Light: 313°T Horn Harbor Entrance Light "HH": 262°T What is your 0410 position?

- LAT 37°21.1'N, LONG 76°07.9'W
- LAT 37°21.2'N, LONG 76°08.2'W
- LAT 37°21.0'N, LONG 76°08.1'W
- LAT 37°21.0'N, LONG 76°08.8'W

Note:

Plotting reciprocal bearings from three simultaneous true bearings on the chart establishes lines of position; their intersection yields the vessel's position at 0410, which is approximately LAT 3721.0'N, LONG 7608.1'W.

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2. If the visibility is 5 miles and you are in the red sector, at what distance off should you sight Cape Henry Light?

- 15 miles
- 9 miles
- 11 miles
- 13 miles

Note:

Cape Henry Light's red sector is visible at approximately 9 nautical miles in 5-mile visibility. The luminous range of a sector light is limited by visibility and sector color, and this value is determined by referencing a luminous range diagram.

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3. From your 0410 fix, what is the course per standard magnetic compass to the entrance to York Spit Channel between buoys "37" and "38"?

- 176°
- 152°
- 178°
- 156°

Note:

The correct course to the entrance of York Spit Channel between buoys 37 and 38, as determined from a 0410 fix, is 176 per standard magnetic compass. This heading is obtained by plotting a line from the fix to the midpoint between the buoys, measuring the true course, and then applying the chart's variation and the vessel's deviation.

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**4. You are turning for 9 knots, a westerly 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 northern leg of York Spit Channel?**

- 194°T
- 203°T
- 197°T
- 191°T

Note:

*Steering 194T compensates for leeway and current, resulting in a track along the northern leg of York Spit Channel.*

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**5. If you are making 8.3 knots over the ground, what is your ETA at the first turning point in York Spit Channel between buoys "29" and "30"?**

- 0456
- 0444
- 0508
- 0522

Note:

*The ETA of 0522 is correct; it is calculated by dividing the charted distance to the turning point by the speed over ground (8.3 knots) to determine the running time, then adding that time to the departure time.*

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**6. Which publication contains the specific information about navigating in York Spit Channel?**

- Light List
- Coast Pilot
- Chesapeake Bay Harbor- master's Regulations Manual
- Navigator's Manual - Chesapeake Bay

Note:

*The Coast Pilot provides detailed navigation information for harbors and channels, including directions, hazards, and regulations. This contrasts with the Light List, which details only aids to navigation, and local manuals, which are not standard references. Therefore, the Coast Pilot is the correct source for information about navigating York Spit Channel.*

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**7. At 0530, the Coast Guard announces that Chesapeake Channel is closed indefinitely due to a collision occurring in the channel between Trestle "B" and "C" of the Chesapeake Bay Bridge and Tunnel. You exit York Spit Channel, leaving buoy "20" abeam to port at 0.1 mile, and alter course to leave Horseshoe Crossing Lighted Bell Buoy abeam to port at 0.2 mile. What is the course per gyrocompass?**

- 193°pgc
- 190°pgc
- 185°pgc
- 187°pgc

Note:

*To navigate from York Spit Channel to Horseshoe Crossing while maintaining specified distances from buoys 20 and Horseshoe Crossing Lighted Bell Buoy, plot a track line on the chart that provides the required perpendicular clearances, then convert the resulting true course to a gyro course using the gyro error, yielding a course per gyrocompass of 193pgc.*

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**8. After you enter Thimble Shoal Channel, you will alter course to pass between Trestle "A" and "B". Which channel should you use?**

- **The South Auxiliary Channel**
- Any of the channels but keep to the right hand side
- Thimble Shoal Main Channel or the South Auxiliary Channel
- Thimble Shoal Main Channel

Note:

*The South Auxiliary Channel is the only charted fairway between Trestle "A" and Trestle "B".*

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**9. As you pass through the Chesapeake Bay Bridge and Tunnel, you sight Trestle "A" in line bearing 198°pgc. What is the gyro error?**

- **2°W**
- 2°E
- 4°W
- 0°

Note:

*The gyro error is 2W because the gyro bearing (198 pgc) is 2 less than the true bearing of the transit (200T), resulting in an error of -2, which is 2W.*

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**10. You sighted Trestle "A" in line at 0707 and are steering 108°T. At 0731, Cape Henry Light bears 136°T; Cape Charles Light bears 032.5°T; and Thimble Shoal Tunnel South Light bears 282°T. What was the speed made good between 0707 and 0731?**

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

Note:

*Speed made good is the distance between fixes divided by elapsed time. The distance between the 0707 and 0731 positions on the chart is approximately 3.5 nautical miles, resulting in a speed of 8.8 knots.*

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