

**Demo PDF file. This file includes questions: 10 from 70. 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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## Q153 - Navigation Problems: Chart Plot

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)?

- 040°psc
- 053°psc
- **045°psc**
- 049°psc

Note:

*The correct course to steer is 045psc, determined by calculating the true course, applying the magnetic variation (adding West), and correcting for compass deviation (subtracting East).*

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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?

- **LAT 37°19.7'N, LONG 76°09.9'W**
- LAT 37°19.7'N, LONG 76°10.3'W
- LAT 37°19.4'N, LONG 76°09.8'W
- LAT 37°19.4'N, LONG 76°09.5'W

Note:

*Choice A is correct; the intersection of lines of position plotted from the given compass bearings to charted objects is located at LAT 3719.7'N, LONG 7609.9'W.*

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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?

- 18.6 knots
- 15.2 knots
- **16.0 knots**
- 14.6 knots

Note:

*The speed made good was 16.0 knots, calculated from a distance of approximately 10.6 nautical miles covered in 40 minutes (0.667 hours).*

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

- mean low water
- mean high water springs
- **mean lower low water**
- mean high water

Note:

*Soundings on U.S. nautical charts are referenced to mean lower low water, providing a safety margin by representing the average depth at the lower of the two daily low tides.*

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

- it is a steel skeleton structure
- it is painted black and white
- it is a low mound of rubble
- **it is a gray, pyramidal structure**

Note:

*The charted note and symbol for the abandoned lighthouse west of Cape Henry Light describe it as a gray, pyramidal structure. This distinguishes it from active aids, which use different symbols, and from ruins or rocks. Therefore, the correct answer is that it is a gray, pyramidal structure.*

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**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?**

- you know the deviation table is incorrect
- **you know the compass error is 8°W**
- you should apply 3°Easterly deviation to the bearing
- you should suspect the compass may be affected by a local magnetic disturbance

Note:

*The observed compass bearing of 040 to a range aligned with Wolf Trap Light and New Point Comfort Spit Light "2" differs from the charted true bearing by 8, indicating a compass error of 8W.*

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**7. At 1712 your GPS indicates a position of LAT 36°54.8'N, LONG 75°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°00.0'N, LONG 75°45.8'W. What were the set and drift?**

- **087°T at 1.2 knots**
- 093°T at 0.8 knot
- 267°T at 1.3 knots
- 262°T at 0.9 knot

Note:

*The current's set and drift were determined by comparing the dead-reckoned position to the actual GPS position over 48 minutes, resulting in a set of 087 true and a drift of 1.2 knots.*

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**8. Your 1302 position is LAT 37°14.7'N, LONG 76°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?**

- 1500
- 1516
- 1451
- **1505**

Note:

*The ETA at Trestle C of the Chesapeake Bay Bridge-Tunnel is 1505. The charted distance of 19.7 nautical miles, at a speed of 9.6 knots, requires approximately 2 hours and 3 minutes of travel time from the starting position of 1302.*

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**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°T at 1.0 knot and a northerly wind causes 3° of leeway?**

- 104°T
- 111°T
- 098°T
- 101°T

Note:

*To maintain the charted course, correct for current using a vector triangle, then apply leeway toward the wind direction; the resulting true heading is 111T.*

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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?**

- fish trap areas
- gunnery exercise areas
- amphibious training areas
- grounds for dredge spoil

Note:

*Broken magenta lines with long and short dashes on NOAA charts in Mobjack Bay indicate fish trap areas, as these zones are specifically charted and labeled as such.*

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