

**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**

---

## Q140 - Navigation Problems: Chart Plot

1. The following questions are based on Chart 12221TR, Chesapeake Bay Entrance, and the supporting publications. Your vessel has a draft of 10 feet (3 meters) Your height of eye is 20 feet (6.1 meters) Gyro error is 3°E Variation is 10°W "Per standard magnetic compass" is abbreviated "psc" "Per gyrocompass" is abbreviated "pgc" DEVIATION TABLE Magnetic Heading Deviation 000°

0° 030°	1°W 060°	2°W 090°	4°W 120°	2°W 150°
---------	----------	----------	----------	----------

1°W 180°	1°E 210°	2°E 240°	3°E 270°	3°E 300°
----------	----------	----------	----------	----------

2°E 330° 1°E You are on course 192°pgc at 12 knots. At 1900 your position is: Latitude 37°22.6'N Longitude 075°35.7'W. Which of the following is true?

- you are inside the 3 nm territorial sea
- your fathometer reads 30'
- if you maintain course and speed you will pass Hog Island Bell Buoy "2" to starboard
- None of the above

Note:

*The fathometer reading of approximately 30 feet is consistent with the charted depth at the vessel's position.*

---

2. What course should you steer using the standard magnetic compass (psc) to make good the course of 192°pgc?

- 203°psc
- 205°psc
- 188°psc
- 195°psc

Note:

*A net 11 West correction exists between the gyro and standard magnetic compass; therefore, add this correction to the gyro course of 192 to determine the standard compass course of 203.*

---

3. At 1920, the buoy forward of your starboard beam is \_\_\_\_\_.

- Sand Shoal Inlet Lighted Buoy "A"
- South Light Buoy
- Hog Island Lighted Bell Buoy
- an interrupted quick flashing buoy

Note:

*Sand Shoal Inlet Lighted Buoy "A" is the correct answer because it is the only buoy located forward of the starboard beam when the 1920 DR position is plotted on the chart.*

---

4. At 1930, your position is LAT 37° 16.7' N, LONG 75° 37.7' W. The depth of water is approximately

\_\_\_\_\_.

- 40 feet (12.1 meters)
- **50 feet (15.1 meters)**
- 30 feet ( 9.1 meters)
- 60 feet (18.1 meters)

Note:

*The charted depth at the given latitude and longitude is approximately 50 feet (15.1 meters).*

---

5. At 1950, your position is LAT 37°12.3'N, LONG 75°38.6'W. The set and drift from 1930 to 1950 were

\_\_\_\_\_.

- 150°T at 0.6 knot
- **150°T at 1.6 knots**
- 330°T at 0.6 knot
- 330°T at 1.6 knots

Note:

*The set and drift were determined by plotting the DR and fix positions on the chart and measuring the vector connecting them; this vector indicates a direction of 150T and a drift of 1.6 knots.*

---

6. Assume set and drift have no effect on your vessel. If you change course to 187°pgc from your 1950 position, how close will you pass Cape Charles Lighted Bell Buoy "14"?

- **1.1 mile**
- 0.5 mile
- 1.7 miles
- 0.1 mile

Note:

*The closest approach to Cape Charles Lighted Bell Buoy "14" is determined by plotting a course line from the 1950 position and measuring the perpendicular distance to the buoy, which is 1.1 nautical miles.*

---

7. At 2020, you obtain a fix using the following information: Cape Charles Lighted Bell Buoy "14" bears 333° pgc Cape Charles Light bears 271.5° pgc Your longitude is \_\_\_\_\_.

- **75°40.5'W**
- 75°38.9'W
- 75°39.1'W
- 75°39.3'W

Note:

*The correct longitude is 7540.5'W, determined by plotting the true bearings from Cape Charles Lighted Bell Buoy "14" and Cape Charles Light and finding their intersection on the chart.*

---

8. At 2020, what is the course to steer to enter the inbound lane of North Chesapeake Entrance traffic separation scheme if a northwesterly wind causes 3° of leeway?

- 224°pgc
- **221°pgc**
- 227°pgc
- 215°pgc

Note:

*To maintain course when experiencing leeway due to a northwesterly wind, steer 3 into the wind, resulting in a course of 221 per gyro compass.*

---

**9. If you make good 12 knots, what is the ETA at North Chesapeake Channel Entrance Buoy "NCA" (LL #375)?**

- 2111
- 2116
- 2106
- 2101

Note:

*The ETA of 2111 is correct; it is calculated by dividing the charted distance to North Chesapeake Channel Entrance Buoy NCA by the speed of 12 knots and adding the result to the departure time.*

---

**10. At 2100, Cape Charles Light bears 321°pgc, and Cape Henry Light bears 247°pgc. Your latitude is**

\_\_\_\_\_.

- 37°00.0'N
- 36°59.1'N
- 36°59.4'N
- 36°59.7'N

Note:

*The latitude is determined by plotting reciprocal lines of position from Cape Charles Light and Cape Henry Light on a nautical chart and reading the latitude at their intersection, resulting in 3659.4'N.*

---