

**Demo PDF file. This file includes questions: 10 from 57. 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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## **Q206 - Navigation Problems: Near Coastal**

**1. You are steering 154°pgc. The wind is southwest causing 4° leeway. The gyro error is 3°E, variation is 11°W and deviation is 7°E. What is the true course made good?**

- 158°T
- 161°T
- **153°T**
- 164°T

Note:

*Correct the gyro course to true by adding the gyro error, then subtract the leeway to port caused by the southwest wind to determine the true course made good, resulting in 153T.*

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**2. Your vessel is steering course 149°psc, variation for the area is 13°E, and deviation is 4°E. The wind is from the northeast, producing a 4° leeway. What true course are you making good?**

- 136°T
- 128°T
- **170°T**
- 162°T

Note:

*The true course made good is 170T, calculated by adding the easterly deviation (4), easterly variation (13), and starboard leeway (4) to the compass course (149).*

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**3. Your vessel is steering course 197°psc, variation for the area is 7°E, and deviation is 4°W. The wind is from the west, producing a 2° leeway. Which true course are you making good?**

- 202°T
- 196°T
- **198°T**
- 192°T

Note:

*The true course made good is determined by correcting the compass course for deviation, variation, and leeway. Converting 197psc to true accounts for deviation and variation, resulting in a heading of 200T. Wind from the west produces 2 of leeway to port, reducing the true course made good to 198T.*

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**4. At 0915 zone time on 7 November you depart Seattle, LAT 47°36.0'N, LONG 122°22.0'W, (ZD +8). You are bound for Kobe, LAT 34°40.0'N, LONG 135°12.0'E, and you estimate your speed of advance at 18.5 knots. The distance is 4,527 miles. What is your estimated zone time of arrival at Kobe?**

- 1257, 17 November
- **0657, 18 November**
- 1857, 18 November
- 0657, 19 November

Note:

*The correct arrival time is determined by converting the departure zone time to GMT, adding the steaming time, and then converting the resulting GMT to the arrival zone time, accounting for zone descriptions and date changes.*

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5. On 10 August your vessel's 0426 zone time DR position is LAT 52°07'N, LONG 142°16'E, when an amplitude of the Sun is observed. The Sun's lower limb is about 20 minutes of arc above the visible horizon and bears 074.5° per standard compass. Variation in the area is 12°W. The chronometer reads 07h 24m 19s and is 02m 34s fast. Which of the following is the deviation of the standard compass?

- 0.0°
- 1.3°W
- **1.3°E**
- 2.3°W

Note:

The deviation is 1.3E, calculated by subtracting the observed compass bearing and variation from the computed true bearing.

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6. On 12 November, you are taking a time tick using the 1600 GMT BBC Broadcast. You hear five pulses followed by a longer pulse. At the start of the longer pulse you start a stopwatch. You stop the stopwatch at the same time reading the chronometer with the following results: stopwatch 03m 19s, chronometer 15h 59m 46s. What is the chronometer error?

- 01m 14s slow
- **03m 33s slow**
- 06m 54s slow
- 03m 19s fast

Note:

The chronometer was 3 minutes 33 seconds slow. The true GMT was 16:03:19, while the chronometer read 15:59:46, indicating a 3 minute 33 second discrepancy.

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7. On 13 October your vessel's 1722 zone time DR position is LAT 27°36'S, LONG 136°16'E, when an amplitude of the Sun is observed. The Sun's center is on the celestial horizon and bears 266° per standard magnetic compass. Variation in the area is 2°W. The chronometer reads 08h 24m 19s and is 01m 43s fast. What is the deviation of the standard magnetic compass?

- 2.3°E
- **2.8°W**
- 4.8°E
- 6.8°W

Note:

The observed Sun's bearing of 266M, after accounting for 2W variation, yields a true bearing of 263.2T. Calculating the true amplitude from the latitude and declination results in a true bearing of 261.2T, indicating a compass deviation of 2.8W.

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8. On 14 January your 0746 zone time DR position is LAT 26°37.0'N, LONG 153°19.0'W. At that time, you observe the Sun bearing 123°psc. The chronometer reads 05h 49m 16s, and the chronometer error is 02m 29s fast. The variation is 3°W. What is the deviation of the standard magnetic compass?

- **1.4°W**
- 1.6°E
- 3.4°E
- 4.4°W

Note:

The deviation of the standard magnetic compass is 1.4W. This is determined by calculating the Sun's true azimuth using the Nautical Almanac, then applying the TVMDC formula (True → Variation → Magnetic → Deviation → Compass) to account for variation and solve for deviation.

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**9. At 1444 ZT on 28 July, in DR position LAT 40° 56.8' N, LONG 167° 12.4' E, you observe an amplitude of the Moon. The upper limb of the Moon is on the visible horizon and bears 299.3° psc. The variation is 1° E. What is the deviation?**

- **3.1°W**
- 3.1°E
- 2.1°W
- 2.1°E

Note:

*The deviation is 3.1W. The total compass error is 2.1W, calculated by subtracting the true bearing from the compass bearing. Subtracting the known variation of 1E from the total compass error yields the deviation of 3.1W.*

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**10. On 15 July in DR position LAT 22°19.0'N, LONG 154°37.0'W, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 298°psc. The chronometer reads 04h 45m 19s and is 01m 56s slow. Variation in the area is 7.5°W. What is the deviation of the standard magnetic compass?**

- 2.7°W
- **3.0°E**
- 3.6°W
- 3.9°E

Note:

*The compass deviation is calculated by comparing the true amplitude, derived from latitude and declination, with the observed compass amplitude, accounting for variation. The difference between the true and compass amplitudes yields a compass error, which when combined with the variation, determines the deviation to be 3.0E.*

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