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U.S.C.G. Merchant Marine Exam Second/Third Mate of Unlimited Tonnage Q116 Navigation Problems – Near Coastal (Sample Examination)

Q116-Navigation Problems-Near Coastal U.S.C.G. Merchant Marine Exam Second/Third Mate of Unlimited Tonnage Illustrations: 2

Choose the best answer to the following Multiple-Choice questions.

1. You swung ship and compared the magnetic compass against the gyrocompass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a magnetic compass heading of 210°.

NP-0113		
HEADING		
PSC		PGC
030.5°	-	024°
061.5°	-	054°
092.0°	17	084°
122.5°	-	114°
152.0°	-	144°
181.0°	-	174°
210.0°	-	204°
239.5°	2	234°
269.0°	-	264°
298.0°	2	294°
327.5°	-	324°
358.5°	-	354°

- A. 0.0°
- B. 0.5°W
- C. 0.5°E
- D. 1.0°E

Correct answer: A

- 2. A vessel steams 666 miles on course 135°T from LAT 40°24.0'N, LONG 74°30.0'W. What is the latitude and longitude of the point of arrival by Mercator sailing?
 - A. LAT 32°36.0'N, LONG 64°49.0'W
 B. LAT 32°33.0'N, LONG 64°46.0'W
 C. LAT 32°39.0'N, LONG 64°53.0'W
 - D. LAT 32°30.0'N, LONG 64°41.0'W

Correct answer: B

- 3. On 4 October 2023, you will be docking at the Redwood Marine Terminal in Eureka, CA at the second high tide. The berth is located between NOAA reference tidal station #9418767 and subordinate station #9418801. What time (LST) will you be docking? See illustration D062NG.
 - A. 1459
 - B. 1504
 - C. 1450
 - D. 1433

Correct answer: C

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- 4. At 0915 zone time on 6 March you depart Sydney, LAT 33°51.5'S, LONG 151°13.0'E (ZD -10). You are bound for Kodiak, LAT 57°47.0'N, LONG 152°25.0'W, and you estimate your speed of advance at 21 knots. The distance is 6,222 miles. What is your estimated zone time of arrival at Kodiak?
 - A. 0732, 17 March
 - B. 2132, 17 March
 - C. 0732, 18 March
 - D. 2132, 18 March

Correct answer: B

- 5. You are turning 93 RPM, with a propeller pitch of 25 feet, and an estimated slip of 0%. What is the speed of advance?
 - A. 22.4 knots
 - B. 22.9 knots
 - C. 20.2 knots
 - D. 21.9 knots

Correct answer: B

- 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?
 - A. 06m 54s slow
 - B. 03m 19s fast
 - C. 01m 14s slow
 - D. 03m 33s slow

Correct answer: D

- On 10 November 2023 at 0630, you are inbound at Charleston Harbor Entrance Buoy "10"(ACT6611). Your vessel will transit 15nm and make good 12.5 knots to a berth where the nearest tidal current station is ACT6706. What will be the direction and velocity of the current as you approach the dock? See illustration D058NG.
 - A. 1.3kts at 172°T
 - B. 1.8kts at 172°T
 - C. 1.3kts at 335°T
 - D. 0.4kts at 104°T

Correct answer: A

- 8. If the pitch of the propeller is 23.2 feet, and the revolutions per day are 94,910, calculate the day's run allowing 11% negative slip.
 - A. 322.3 miles
 - B. 362.3 miles
 - C. 402.0 miles
 - D. 382.0 miles

Correct answer: C

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9. On 1 September your 1115 zone time DR position is LAT 25°20.0'N, LONG 28°24.0'W.

At that time, you observe the Sun bearing 160.5°psc. The chronometer reads 01h 14m 58s, and the chronometer error is 01m 17s fast. The variation is 13.5°W. What is the deviation of the standard compass?

- A. 2.1°E
- B. 4.1°E
- C. 11.0°W
- D. 11.0°E

Correct answer: A

- 10. On 31 October your 1700 zone time DR position is LAT 27°17.0'N, LONG 116°10.0'W, when an amplitude of the Sun is observed. The Sun's center is on the visible horizon and bears 246.5° per standard magnetic compass. Variation in the area is 8.5°E. The chronometer reads 01h 01m 23s and the chronometer error is 01m 54s slow. What is the deviation of the standard compass?
 - A. 0.8°E
 - B. 0.8°W
 - C. 2.5°E
 - D. 2.5°W

Correct answer: B

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D058NG





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D062NG



Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between. Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

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