

## U.S.C.G. Merchant Marine Exam

Master Less than 500-1600 Gross Registered Tons

Q126 Navigation Problems – Near Coastal

(Sample Examination)

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

1. If the pitch of the propeller is 19.4 feet, and the revolutions per day are 96,713, calculate the day's run allowing 6% positive slip.
- A. 327.1 miles
  - B. 290.1 miles
  - C. 266.4 miles
  - D. 308.6 miles

Correct answer: B

2. A vessel steams 1650 miles on course 077°T from LAT 12°47'N, LONG 45°10'E. What is the latitude and longitude of the point of arrival by Mercator sailing?
- A. LAT 18°54'N, LONG 72°58'E
  - B. LAT 19°06'N, LONG 72°36'E
  - C. LAT 18°58'N, LONG 72°52'E
  - D. LAT 19°02'N, LONG 72°44'E

Correct answer: C

3. You are taking a time tick using the 2000 signal from Kekaha-Kauai, Hawaii (WWVH). You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 08h 00m 08s. When compared to the chronometer, the comparing watch reads 08h 01m 15s, and the chronometer reads 07h 59m 55s. What is the chronometer error?
- A. 1m 12s slow
  - B. 1m 28s slow
  - C. 0m 08s fast
  - D. 1m 07s fast

Correct answer: A

4. On 11 May in DR position LAT 28°13.7'N, LONG 168°36.3'E, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 283°psc. The chronometer reads 07h 13m 19s and is 02m 56s slow. Variation in the area is 13°E. What is the deviation of the standard magnetic compass?
- A. 5.2°W
  - B. 5.6°W
  - C. 7.4°E
  - D. 7.8°E

Correct answer: B

5. On 9 November 2023 at 1130, you are inbound at Charleston Harbor Entrance Buoy "10" (ACT6611). Your vessel will transit 15nm and make good 10.0 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? Illustration D058NG
- A. 0.2kts at 280°T
  - B. 0.2kts at 104°T
  - C. 0.5kts at 172°T
  - D. 0.5kts at 335°T

Correct answer: D

6. You are on a voyage from San Diego, CA to New York, NY. The distance from pilot to pilot is 4860 miles. The speed of advance is 15.0 knots. You estimate 18 hours for bunkering at Colon, and 14 hours for the Panama Canal transit. If you take departure at 0836 hours (ZD +7), 4 July, what is your ETA (ZD +4) at New York?
- A. 0336, 20 July
  - B. 0036, 19 July
  - C. 0336, 19 July
  - D. 0736, 19 July

Correct answer: D

7. On 4 October 2023, you will be docking at Redwood Marine Terminal in Eureka, CA at the first high tide. The berth is located between NOAA reference tidal station #9418767 and subordinate station #9418801. What time (LST) will you be docking? Illustration D062NG
- A. 0330
  - B. 0356
  - C. 0404
  - D. 0338

Correct answer: B

8. You have steamed 174 miles and consumed 18.0 tons of fuel. If you maintain the same speed, how many tons of fuel will you consume while steaming 416 miles?
- A. 34.9 tons
  - B. 43.0 tons
  - C. 46.2 tons
  - D. 38.4 tons

Correct answer: B

9. The true course between two points is 057°. Your gyrocompass has an error of 3° east and you make an allowance of 1° leeway for a north-northwest wind. Which gyro course should be steered to make the true course good?
- A. 059°pgc
  - B. 053°pgc
  - C. 060°pgc
  - D. 056°pgc

Correct answer: B

**10.** On 5 June your 0420 zone time DR position is LAT  $26^{\circ}47.0'$  N, LONG  $133^{\circ}19.5'$  W. At that time, you observe Vega bearing  $298.1^{\circ}$ psc. The chronometer reads 01h 21m 17s, and the chronometer error is 02m 25s fast. The variation is  $3.5^{\circ}$ E. What is the deviation of the standard compass?

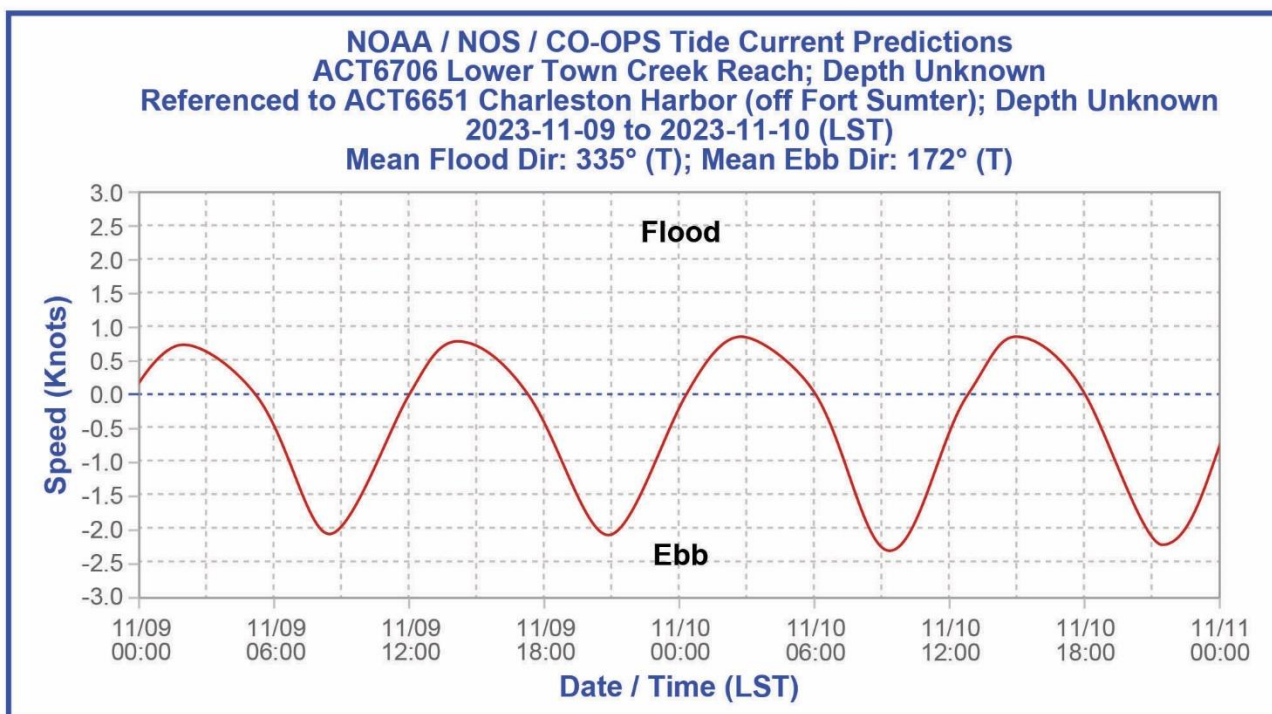
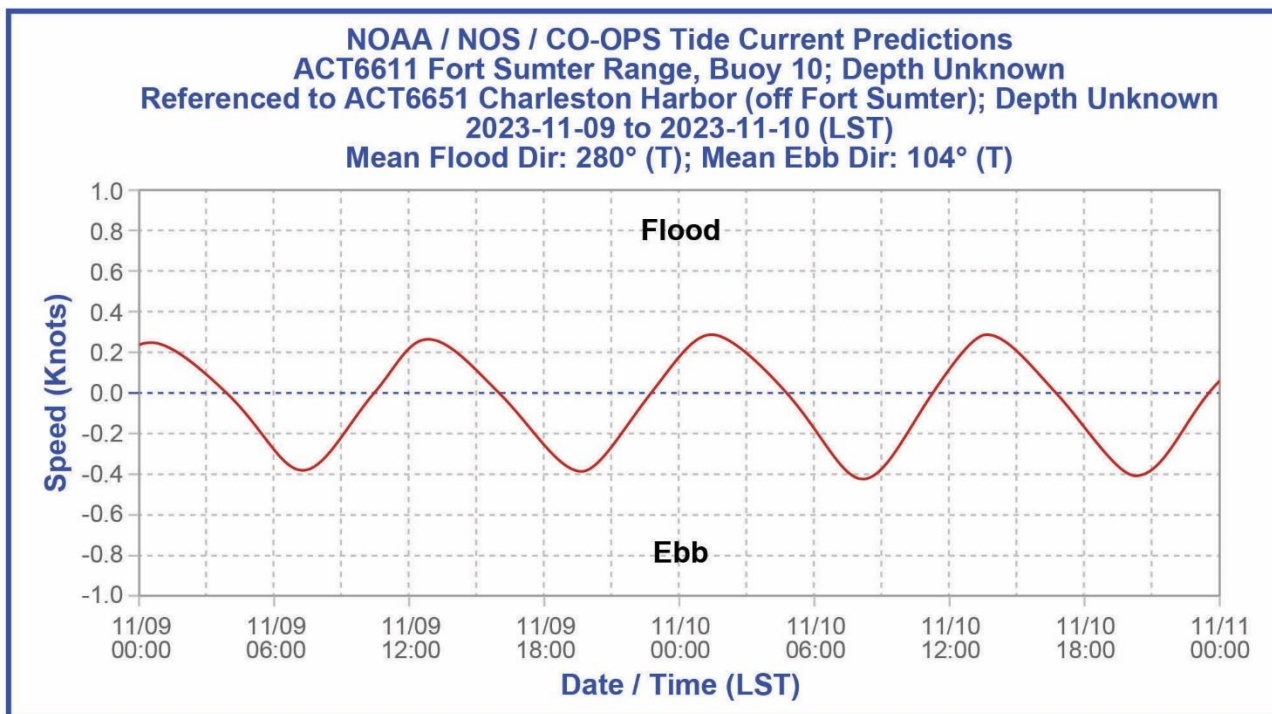
- A.  $1.8^{\circ}$ E
- B.  $5.2^{\circ}$ E
- C.  $1.8^{\circ}$ W
- D.  $5.2^{\circ}$ W

Correct answer: C

# United States Coast Guard National Maritime Center



## D058NG



Adapted for testing purposes only from National Oceanic and Atmospheric Administration  
(NOAA) Current Predictions,

<https://www.tidesandcurrents.noaa.gov>

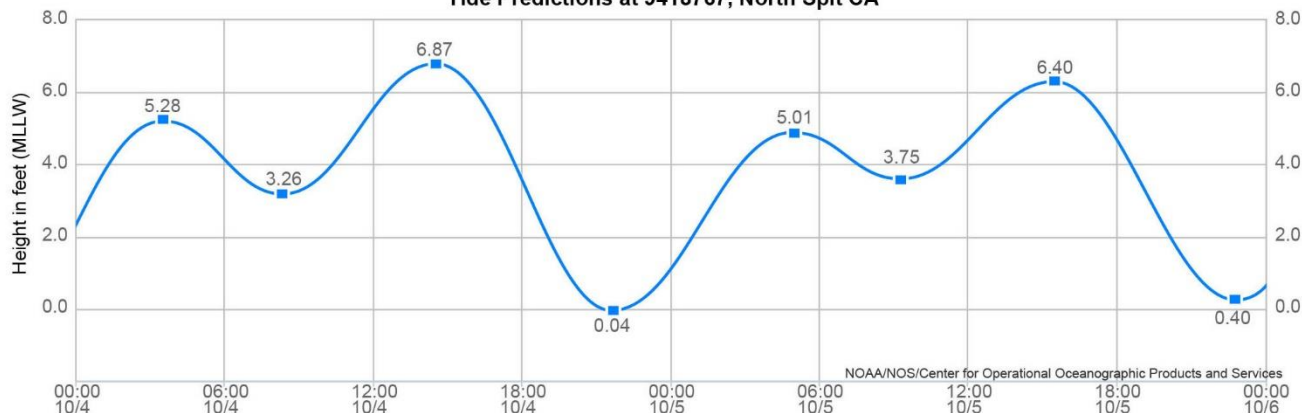
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# United States Coast Guard National Maritime Center



## D062NG

### NOAA/NOS/CO-OPS Tide Predictions at 9418767, North Spit CA



Station Name: North Spit, CA  
Action: Daily  
Product: Tide Predictions  
Start Date & Time: 2023/10/4 00:00  
End Date & Time: 2023/10/5 23:59

Source: NOAA/NOS/CO-OPS  
Prediction Type: Harmonic  
Datum: MLLW  
Height Units: Feet  
Time Zone: LST

#### High/Low Tide Prediction Data Listing

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2023/10/04	Wed	03:38	5.28 H	08:28	3.26 L	14:33	6.87 H	21:47	0.04 L
2023/10/05	Thu	04:52	5.01 H	09:24	3.75 L	15:25	6.40 H	22:50	0.40 L

### NOAA/NOS/CO-OPS Tide Predictions at 9418801, Eureka CA



Station Name: Eureka, CA  
Action: Daily  
Product: Tide Predictions  
Start Date & Time: 2023/10/4 00:00  
End Date & Time: 2023/10/5 23:59

Source: NOAA/NOS/CO-OPS  
Prediction Type: Subordinate  
Datum: MLLW  
Height Units: Feet  
Time Zone: LST

#### High/Low Tide Prediction Data Listing

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2023/10/04	Wed	04:04	5.60 H	08:41	3.36 L	14:59	7.28 H	22:00	0.04 L
2023/10/05	Thu	05:18	5.31 H	09:37	3.86 L	15:51	6.78 H	23:03	0.41 L

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.

**Adapted for testing purposes only from National Oceanic and Atmospheric Administration  
(NOAA) Tide Predictions,**

**<https://www.tidesandcurrents.noaa.gov>**

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