
Q342 - Navigation General: Great Lakes and Inland

1. How many degrees are there on a compass card?

- **360°**
- 380°
- 390°
- 420°

Note:
A compass card represents a full circle, which is defined as 360 degrees. This standard measurement is fundamental to navigation and compass readings, making 360 the correct answer.

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2. The heading of a vessel is indicated by what part of the compass?

- Needle
- Card
- **Lubber's line**
- Gimbals

Note:
The heading is determined by the alignment of the compass card with the fixed lubber's line, which is aligned with the vessel's fore-and-aft line. The lubber's line serves as a fixed reference point, while the compass card rotates to indicate direction; the needle or sensing element aligns the card, and the gimbals maintain the compass's level.

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3. What does the lubber's line on a magnetic compass indicate?

- **The vessel's compass heading**
- Compass north
- Magnetic north
- A relative bearing taken with an azimuth circle

Note:
The lubber's line is a fixed reference mark on a magnetic compass that indicates the vessel's compass heading, aligning with the ship's centerline and showing the direction the bow is pointing on the compass card.

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4. A vessel heading NE is on which course?

- 022.5°
- **045.0°**
- 067.5°
- 090.0°

Note:
Northeast corresponds to a course of 045.0 because it lies exactly halfway between North (000) and East (090) on a 360 compass.

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5. On 27 April 1983, at 1105 DST (ZD +4), what will be the predicted height of tide at Falkner Island, CT?

- **5.3 feet (1.6 m)**
- 5.6 feet (1.7 m)
- 6.2 feet (1.9 m)
- 6.8 feet (2.7 m)

Note:
The predicted tide height at Falkner Island on 27 April 1983 at 1105 DST is 5.3 feet (1.6 m). This requires converting the time to Local Standard Time, using the 1983 Tide Tables, applying subordinate station corrections, and interpolating using the Height of Tide Table.

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6. On 6 June 1983, at 1719 EST (ZD +5), what will be the predicted height of tide at Chester, PA?

- 0.8 feet(0.2 meters)
- **1.1 feet (0.3 meters)**
- 3.5 feet (1.1 meters)
- 4.7 feet (1.4 meters)

Note:
The predicted tide height at Chester, PA on June 6, 1983, at 1719 EST is 1.1 feet (0.3 meters). This is determined by interpolating between the surrounding high and low tides using the official 1983 Tide Tables.

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7. Which agency maintains federal aids to navigation?

- Corps of Engineers
- Maritime Administration
- National Ocean Service
- **Coast Guard**

Note:
The U.S. Coast Guard maintains federal aids to navigation; this responsibility is defined by regulations and distinguishes it from agencies focused on navigation projects, maritime commerce, or hydrographic surveys.

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8. When is an air mass termed "warm"?

- If it originated in a high-pressure area
- **If the ground over which it moves is cooler than the air**
- If it originated in a low-pressure area
- If the mass is above 70°F

Note:
An air mass is classified as warm when its temperature is higher than that of the surface it traverses, a distinction based on relative temperature rather than origin or absolute temperature.

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9. You are at anchor in the anchorage at the entrance to Delaware Bay. You weigh anchor at 1445 DST (ZD +4) on 24 July 1983 and proceed northbound enroute to Philadelphia at a speed of 10 knots. Which of the following should you expect to experience?

- a flood current from Ship John Shoal Lt. to Philadelphia
- an ebb current north of New Castle, DE
- a flood current the entire trip
- **a weak flood between Reedy Island and Edgemoor**

Note:
Based on the 1983 Tidal Current Tables for Delaware Bay, a northbound transit at 1445 DST with a speed of 10 knots will experience a weak flood current between Reedy Island and Edgemoor.

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10. Where can the annual change in variation for an area be found?

- The handbook for Magnetic Compass Adjustment, Pub 226
- **The center of the compass rose on a chart of the area**
- The compass deviation table
- Variation does not change.

Note:
The annual change in magnetic variation is indicated on nautical charts at the center of the compass rose.
