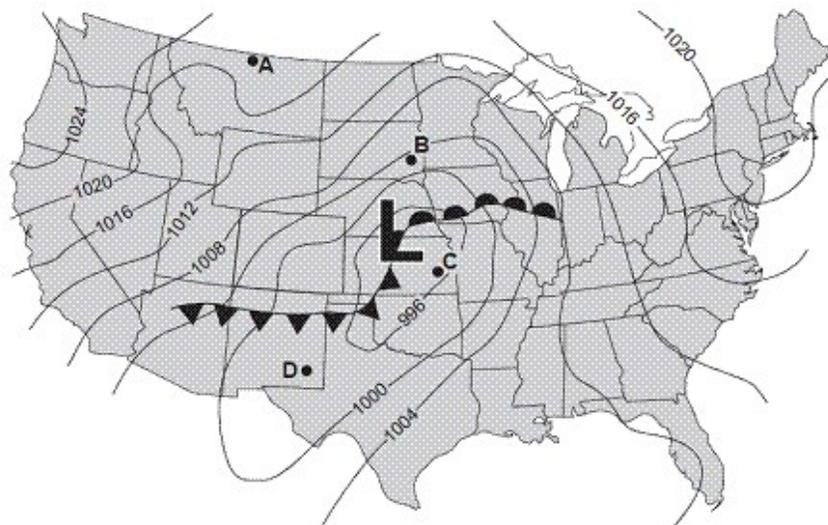


**Figure 1**

Base your answer to this question on the weather map below, which shows a low-pressure system over the central United States. Isobars are labeled in millibars. Points *A*, *B*, *C*, and *D* represent locations on Earth's surface.



---

1. [Refer to figure 1]

The air pressure at the center of this low is:

- 1. 991 mb    3. 997 mb
- 2. 994 mb    4. 1001 mb

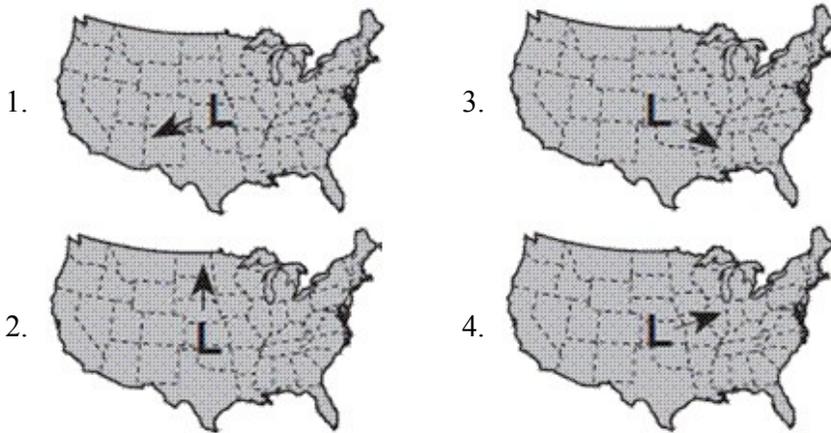
2. [Refer to figure 1]

Which location is most likely experiencing the fastest wind speed?

- 1. *A*    3. *C*
- 2. *B*    4. *D*

3. [Refer to figure 1]

Which map shows the most likely path this low-pressure center will follow during the next 12 hours?



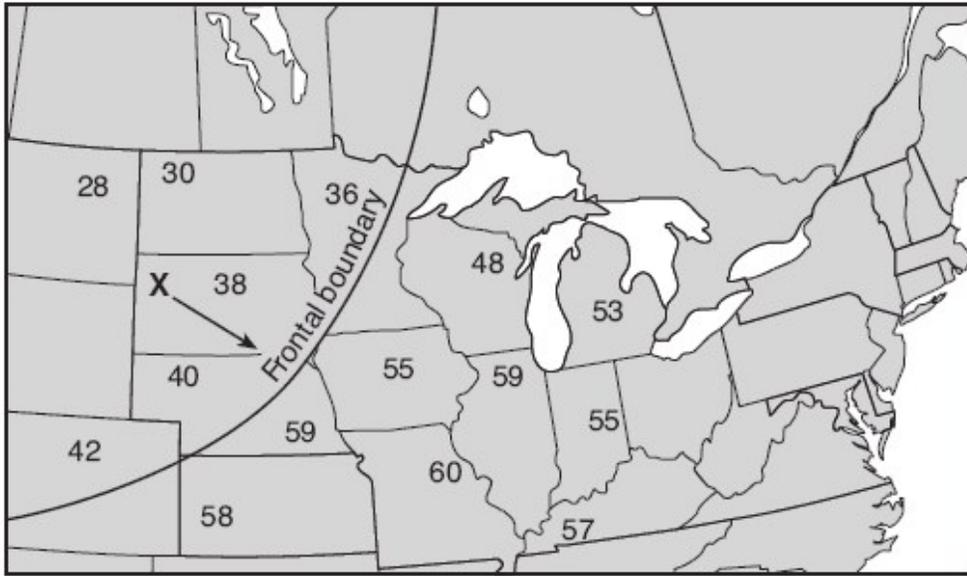
4. What is the dewpoint if the relative humidity is 100% and the air temperature is 20°C?

- 1. 0°C    3. 20°C
- 2. 10°C    4. 100°C

5. Which weather variable is measured by a barometer?

- 1. dewpoint    3. air pressure
- 2. wind speed    4. visibility

6. The map below shows surface air temperatures, in degrees Fahrenheit, reported by weather stations in the north-central United States. Letter *X* represents an air mass moving in the direction shown by the arrow. A line marks a frontal boundary advancing in a southeasterly direction.



Which weather-map symbols best represent air-mass *X* and the frontal boundary shown on the map?

- |    |    |    |    |
|----|----|----|----|
| 1. | cP | 3. | cT |
|    |    |    |    |
| 2. | mP | 4. | mT |
|    |    |    |    |

**Figure 2**

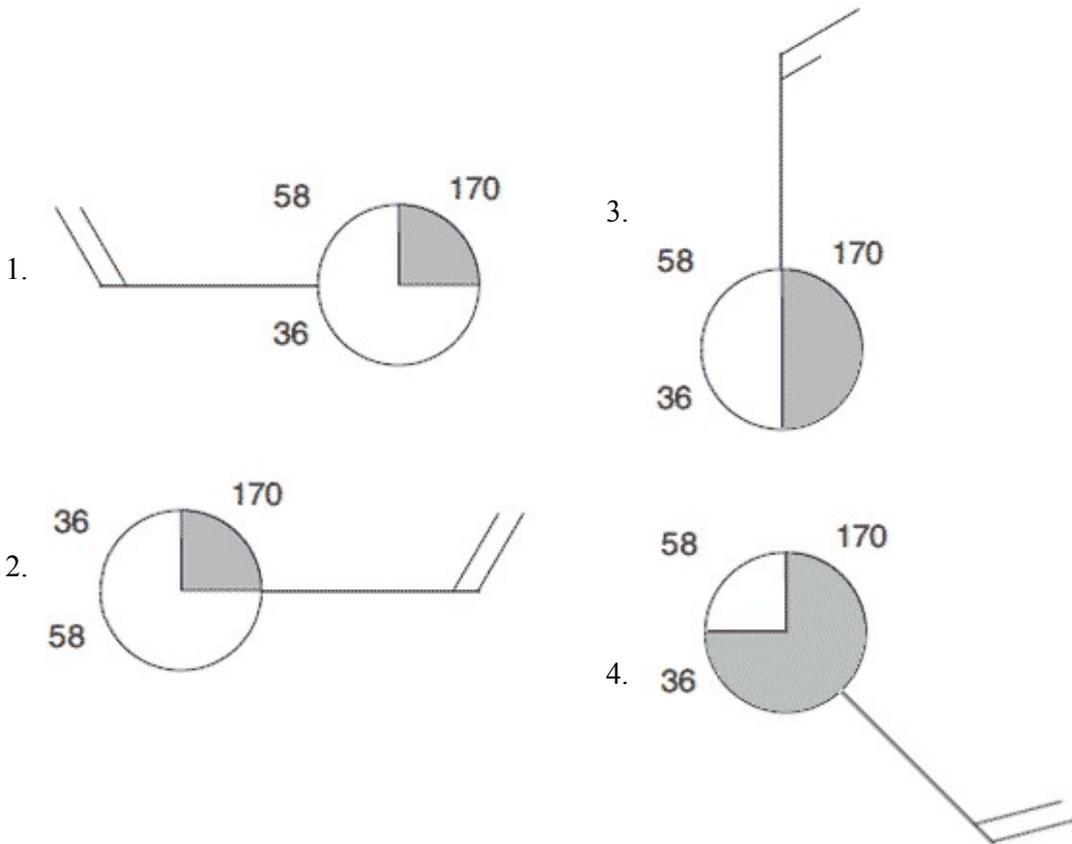
Base your answer to this question on the table below, which shows weather data recorded at Albany, New York.

**Data Table**

Location	Temperature (°F)	Dewpoint (°F)	Cloud Cover (%)	Pressure (mb)	Wind Direction	Wind Speed (knots)
Albany	58	36	25	1017.0	from the west	20

7. [Refer to figure 2]

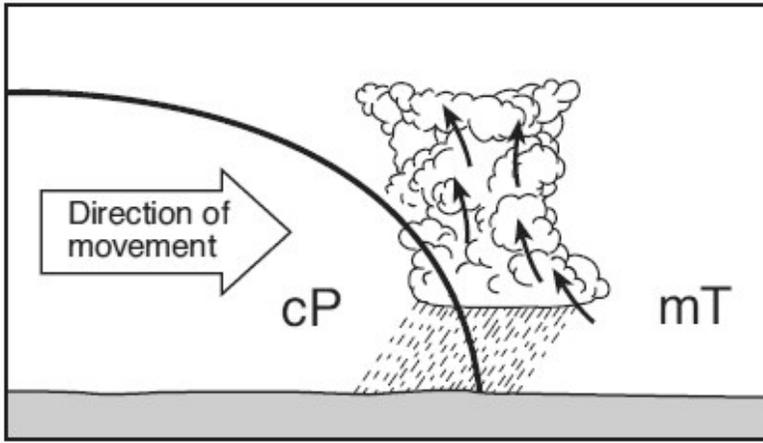
Which station model accurately represents these *six* weather conditions?



8. What is the dewpoint when the air temperature is 26°C and the relative humidity is 77%?

- 1. 3°C    3. 22°C
- 2. 20°C    4. 23°C

9. A cross section of a weather front is shown below.

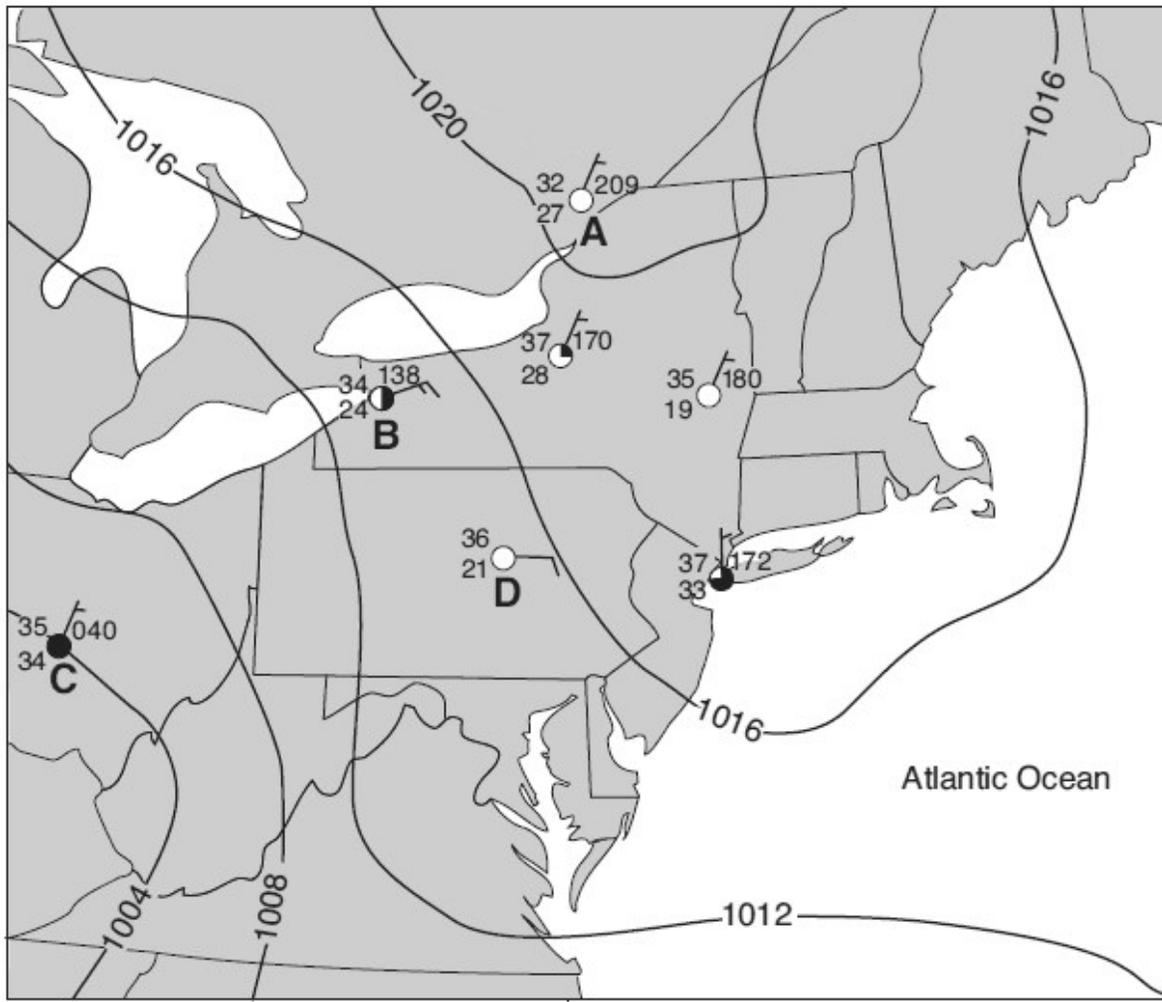


Which symbol would be used to represent this front on a weather map?

- 1.
- 2.
- 3.
- 4.

**Figure 3**

Base your answer to the question on the weather map below. The map shows isobars and seven weather station models. Four of the weather stations are identified by letters *A*, *B*, *C*, and *D*.



10. [Refer to figure 3]

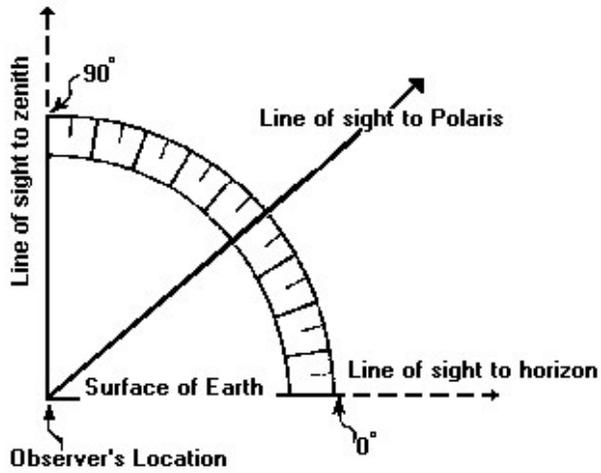
Which New York State weather station had clear skies?

- 1. Albany    3. New York City
- 2. Buffalo    4. Syracuse

11. The Earth's actual shape is most correctly described as

- 1. a circle                    3. an oblate sphere
- 2. a perfect sphere        4. an eccentric ellipse

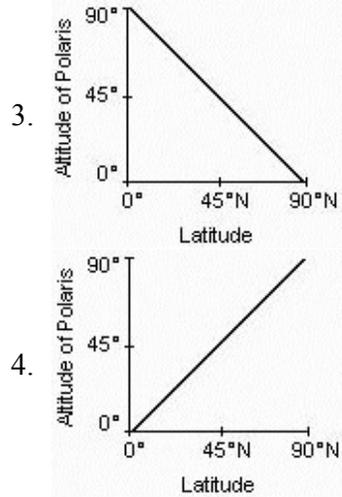
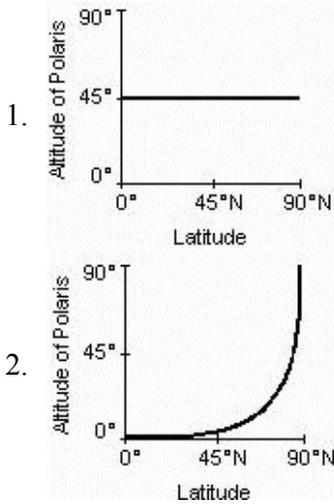
12. The diagram shows the altitude of Polaris above the horizon at a certain location.



What is the latitude of the observer?

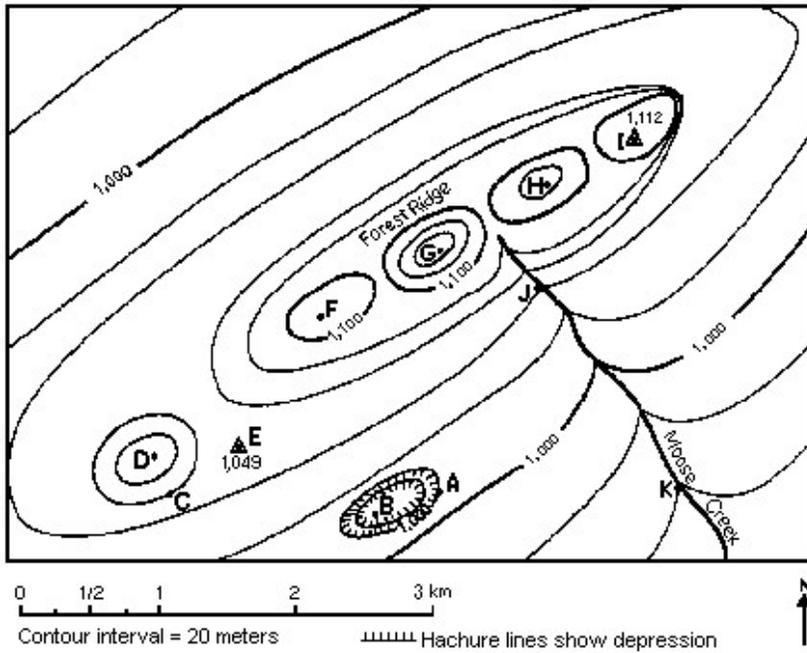
1.  $10^\circ$  North    3.  $50^\circ$  North
2.  $40^\circ$  North    4.  $90^\circ$  North

13. Which graph below best represents the relationship between the latitude of an observer and the observed altitude of Polaris above the northern horizon?



**Figure 4**

The diagram represents a contour map. Letters *A* through *K* represent locations in the area.



14. [Refer to figure 4]

Which hilltop could have an elevation of 1,145 meters?

- 1. *D*    3. *G*
- 2. *F*    4. *H*

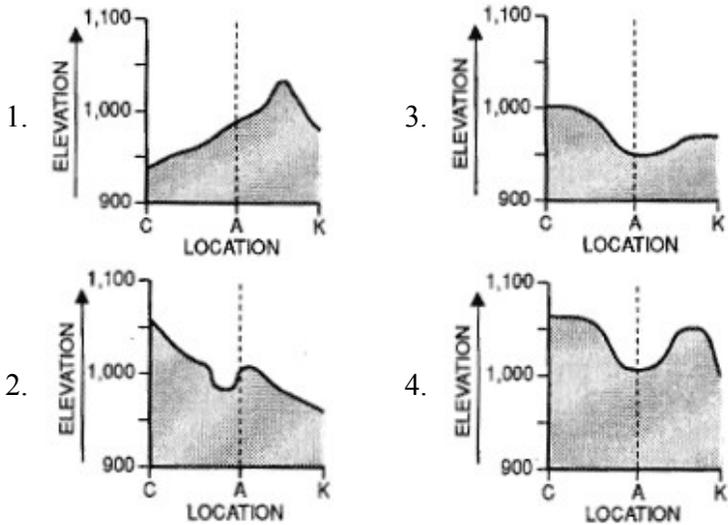
15. [Refer to figure 4]

Toward which direction does Moose Creek flow?

- 1. southeast    3. southwest
- 2. northeast    4. northwest

16. [Refer to figure 4]

Which graph below best represents the map profile along a straight line from point *C* through point *A* to point *K*?



17. [Refer to figure 4]

Which equation would be used to determine the stream gradient along Moose Creek between points *J* and *K*?

1.  $\text{gradient} = \frac{1.8 \text{ km}}{80 \text{ m}} \times 100$
2.  $\text{gradient} = \frac{0.8 \text{ km}}{60 \text{ m}} \times 100$
3.  $\text{gradient} = (1,040 \text{ m} - 960 \text{ m}) \times 20$
4.  $\text{gradient} = \frac{80 \text{ m}}{1.8 \text{ km}}$

18. [Refer to figure 4]

What is the lowest possible elevation of point *B*?

1. 981 m    3. 961 m  
 2. 971 m    4. 941 m

19. Precise measurements of Earth indicate that its polar diameter is

1. shorter than its equatorial diameter
2. longer than its equatorial diameter
3. the same length as its equatorial diameter

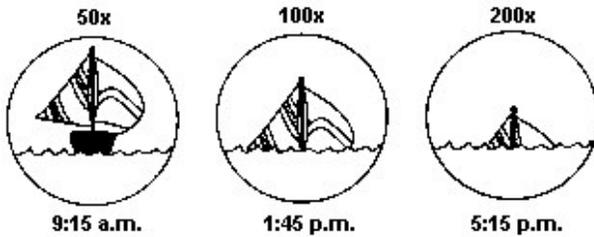
20. Which layer of the atmosphere contains the most water vapor?

1. troposphere    3. mesosphere  
 2. stratosphere    4. thermosphere

21. Which is true about isolines on a weather map?

1. They are of equal length.
2. They are evenly spaced.
3. They connect points with equal readings.
4. They are constant for 24 hours.

22. The diagrams represents photographs of a large sailboat taken through a telescope over time as the boat sailed away from shore out to sea. Each diagram shows the magnification of the lenses and the time of day.

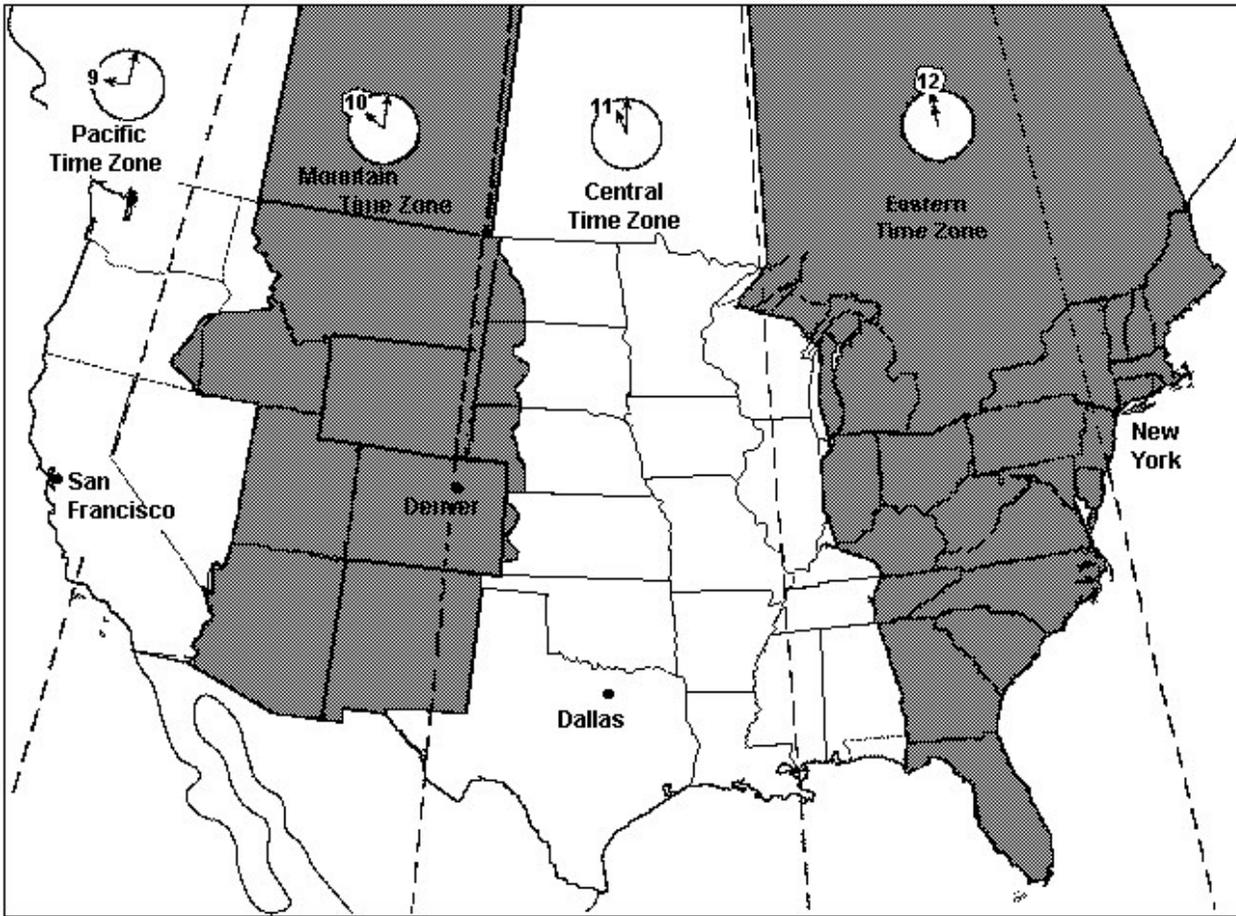


Which statement best describes the apparent sinking of the sailboat?

1. The sailboat is moving around the curved surface of the earth.
2. The sailboat appears smaller as it moves farther away.
3. The change in density of the atmosphere is causing refraction of light rays.
4. The tide is causing an increase in the depth of the ocean.

Figure 5

The diagram shows a time zone map.

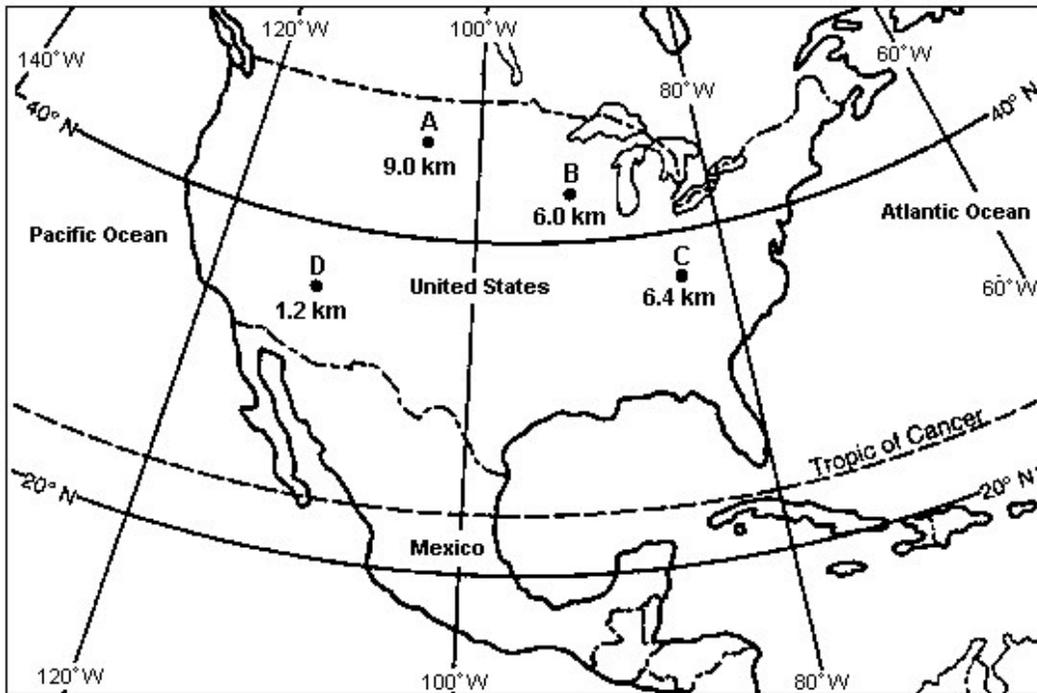


23. [Refer to figure 5]

The dashed boundaries between the time zones are how many degrees of longitude apart?

- 1.  $10^\circ$
- 2.  $15^\circ$
- 3.  $23\frac{1}{2}^\circ$
- 4.  $24^\circ$

24. The map shows the location and diameter, in kilometers, of four meteorite impact craters, *A*, *B*, *C*, and *D*, found in the United States.



What is the approximate latitude and longitude of the largest crater?

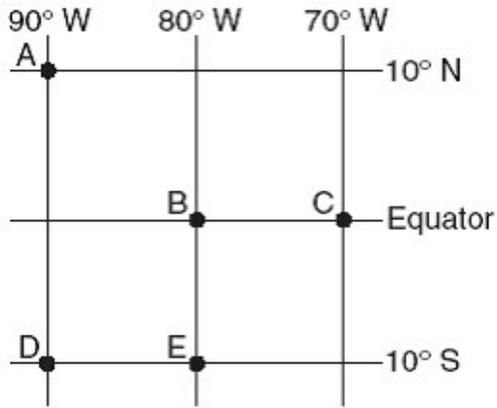
- 1. 35° N 111° W    3. 47° N 90° W
- 2. 39° N 83° W    4. 47° N 104° W

25. When the time of day for a certain ship at sea is 12 noon, the time of day at the Prime Meridian (0° longitude) is 5 p.m. What is the ship's longitude?

- 1. 45° W    3. 75° W
- 2. 45° E    4. 75° E

**Figure 6**

Base your answer on the map, which shows the latitude and longitude of five observers, *A*, *B*, *C*, *D*, and *E*, on Earth.



26. [Refer to figure 6]

What is the altitude of *Polaris* (the North Star) above the northern horizon for observer *A*?

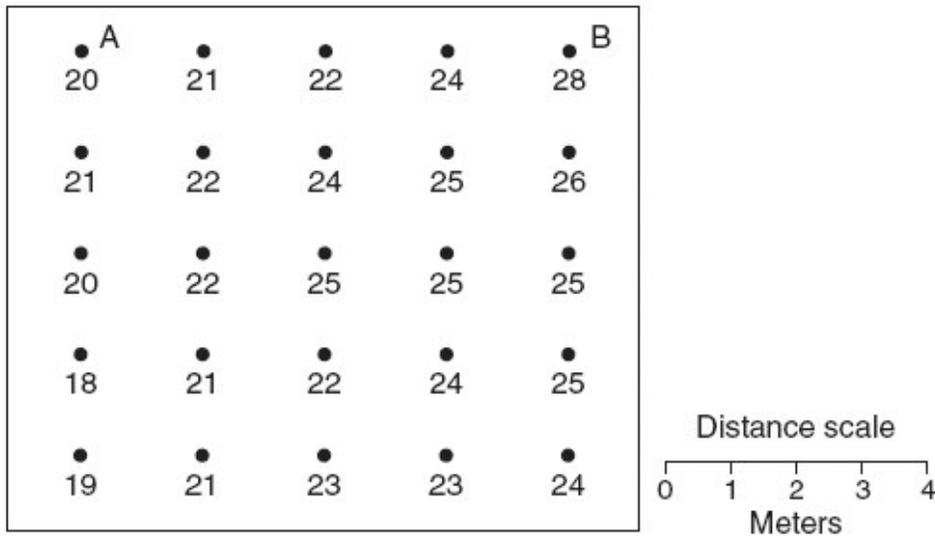
- 1. 0°    3. 80°
- 2. 10°    4. 90°

27. [Refer to figure 6]

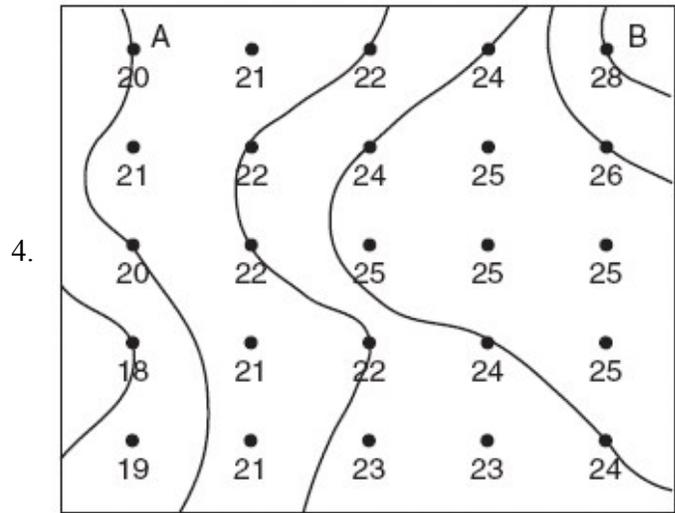
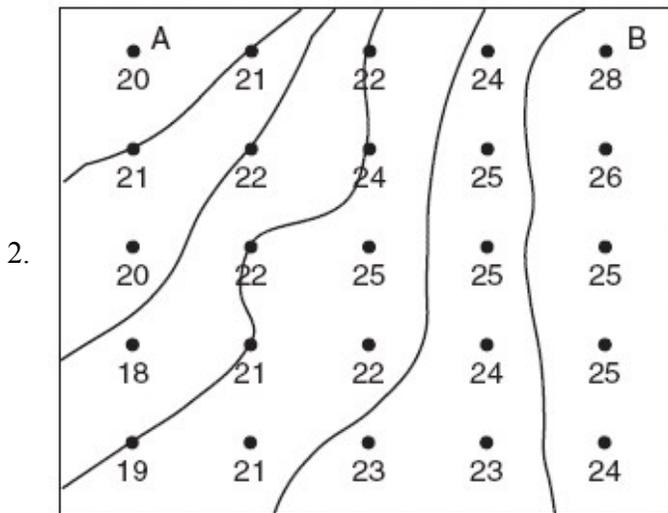
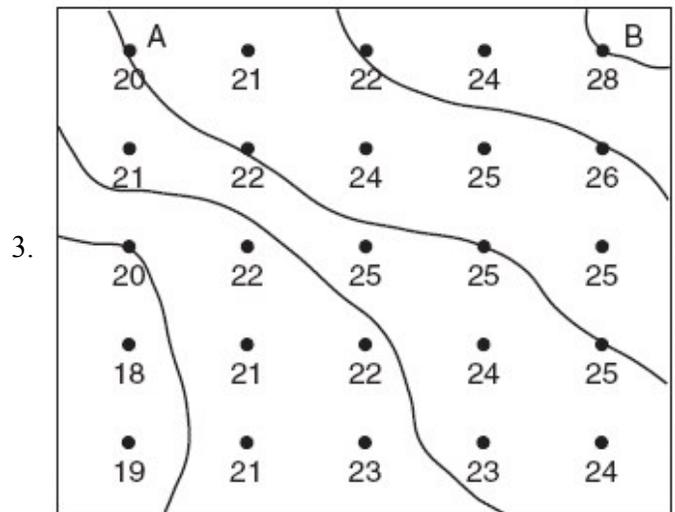
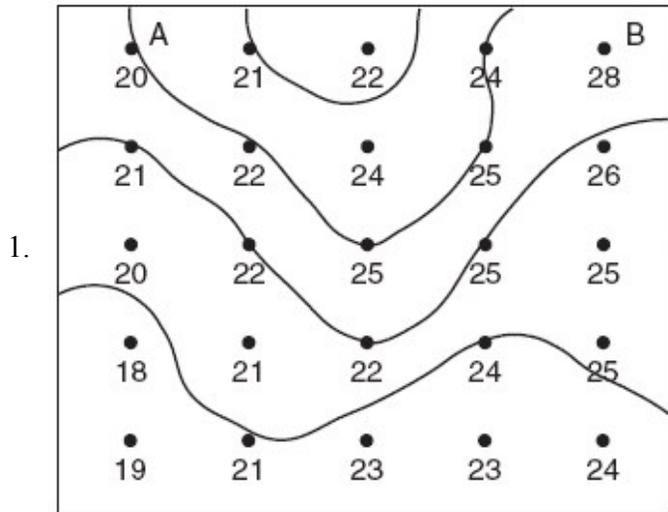
Which two observers would be experiencing the same apparent solar time?

- 1. *A* and *C*    3. *B* and *E*
- 2. *B* and *C*    4. *D* and *E*

28. The field map below shows air temperature measurements, in degrees Celsius, taken at the same elevation within a closed room. Two reference points, *A* and *B*, are shown.



Which temperature field map shows correctly drawn isotherms?



**Answer Key for Final Review 2**

1. 2	11. 3	21. 3
2. 2	12. 2	22. 1
3. 4	13. 4	23. 2
4. 3	14. 3	24. 4
5. 3	15. 1	25. 3
6. 1	16. 2	26. 2
7. 1	17. 4	27. 3
8. 3	18. 3	28. 4
9. 1	19. 1	
10. 1	20. 1	