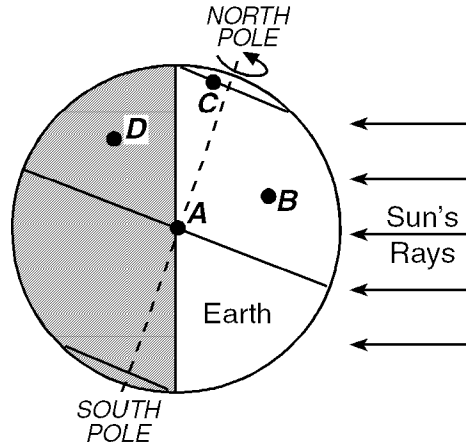


Earth's Shape/Mapping Practice Questions

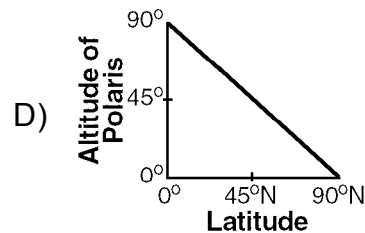
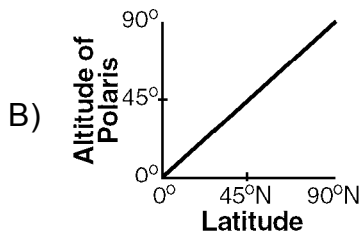
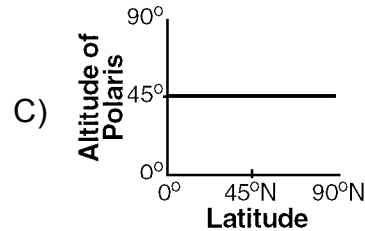
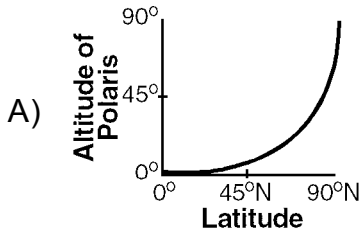
Name: _____

- 1) How are latitude and longitude lines drawn on a globe of the Earth?
- A) Longitude lines are parallel and latitude lines meet at the Equator.
 B) Longitude lines are parallel and latitude lines meet at the poles.
 C) Latitude lines are parallel and longitude lines meet at the poles.
 D) Latitude lines are parallel and longitude lines meet at the Equator.
- 2) The diagram below illustrates the position of the Earth in relation to the Sun on one particular day. Points *A*, *B*, *C*, and *D* are locations on the Earth's surface.

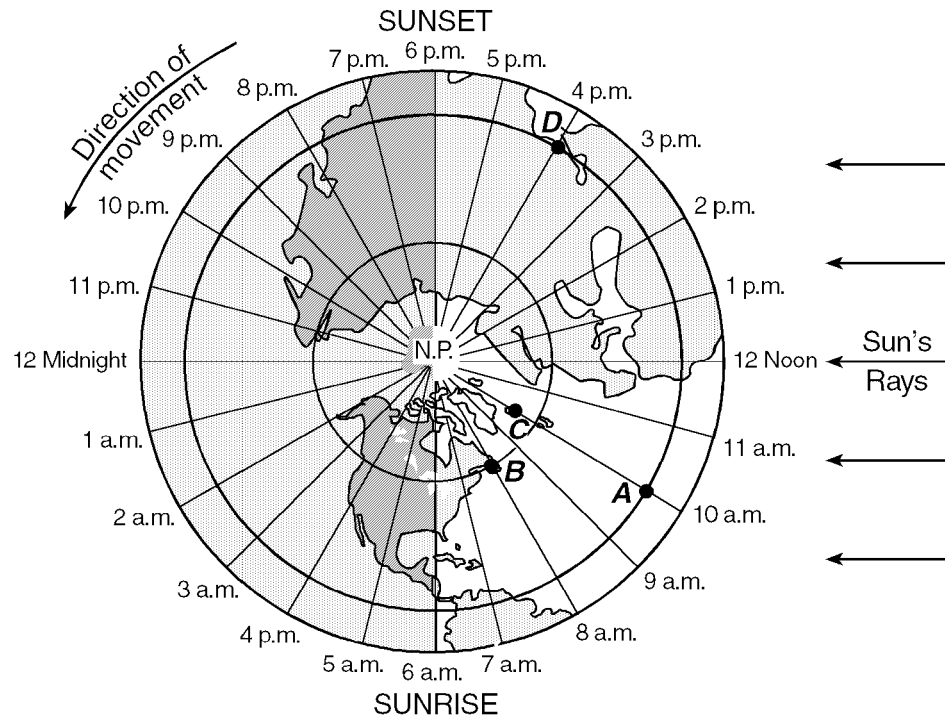


In which direction would an observer at point *D* look to find Polaris?

- A) north B) west C) south D) east
- 3) Which graph *best* represents the relationship between the latitude of an observer and the observed altitude of Polaris above the northern horizon?

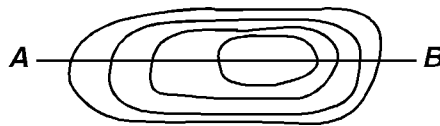


- 4) The map below represents a view of the Earth looking down from above the North Pole (N.P.), showing the Earth's 24 standard time zones. The Sun's rays are striking the Earth from the right. Points A, B, C, and D are locations on the Earth's surface.



Areas within a time zone generally keep the same standard clock time. In degrees of longitude, approximately how wide is one standard time zone?

- A) 15° B) $23\frac{1}{2}^\circ$ C) 30° D) $7\frac{1}{2}^\circ$
- 5) The diagram below represents contour lines on a topographic map with cross-section line AB.

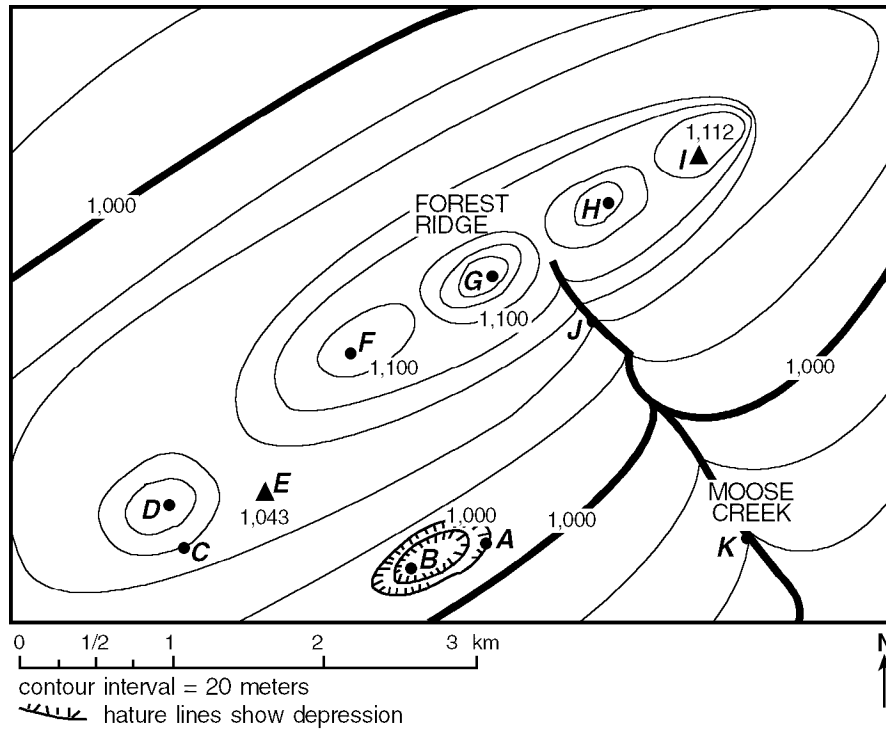


Which diagram *best* represents the topographic profile along line AB?

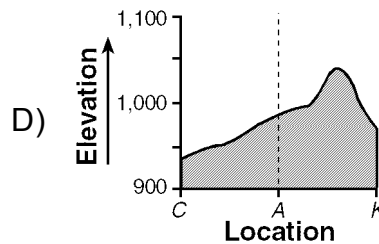
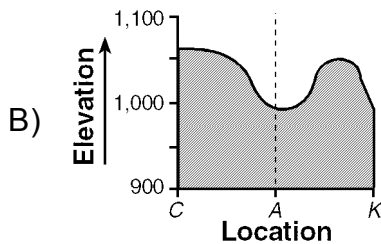
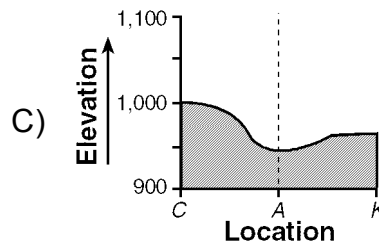
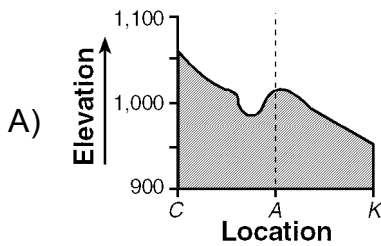
- A)
- B)
- C)
- D)

Questions 6 through 9 refer to the following:

The diagram below represents a contour map below. Letters A through K represent locations in the area. Hachure lines show depressions.

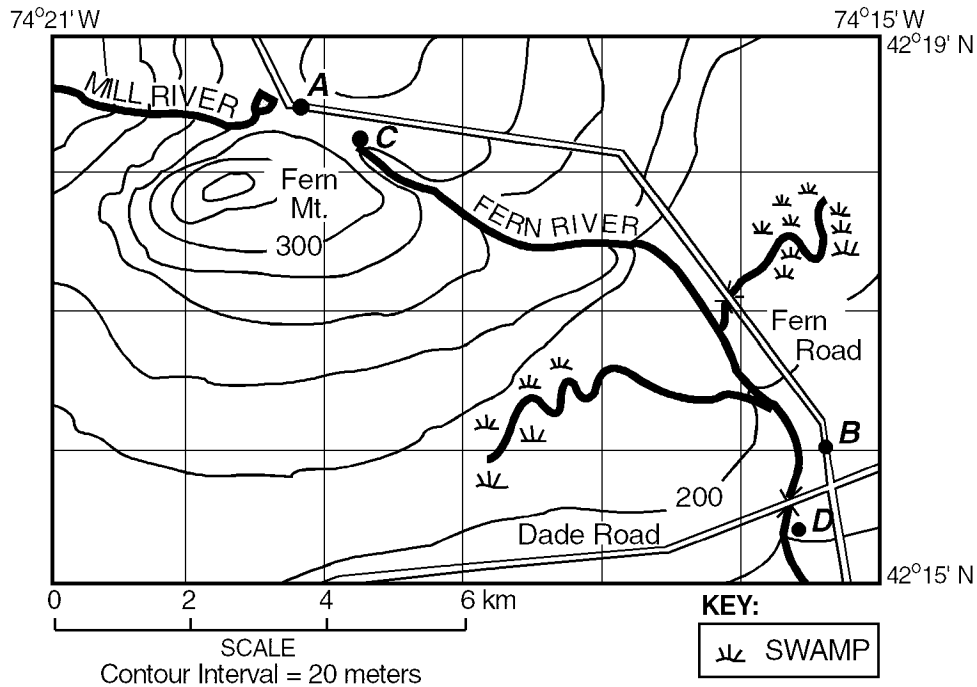


- 6) Which hilltop could have an elevation of 1,145 meters?
 A) F B) G C) H D) D
- 7) Toward which direction does Moose Creek flow?
 A) northeast B) southwest C) southeast D) northwest
- 8) Which graph *best* represents the map profile along a straight line from point C through point A to point K?



- 9) What is the *lowest* possible elevation of point B?
 A) 971 m B) 941 m C) 961 m D) 981 m

12) Points *A* through *D* represent locations in the region.



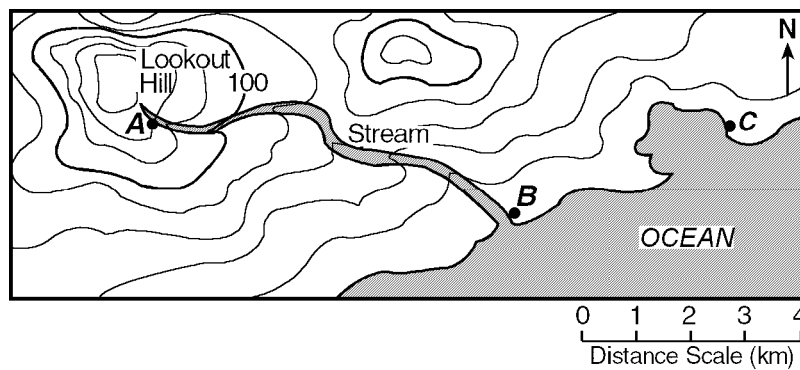
What is the approximate latitude of point *B*?

- A) 42° 19' N B) 74° 22' W C) 74° 15' W D) 42° 16' N

13) According to the *Earth Science Reference Tables*, at which New York State location is the altitude of Polaris *closest* to 42°?

- A) Rochester B) Albany C) Mt. Marcy D) Slide Mt.

14) Points *A* through *C* are locations on the contour map below. Elevations are in meters.



Which side of Lookout Hill has the *steepest* slope?

- A) east B) west C) north D) south

15) According to the *Earth Science Reference Tables*, which part of the atmosphere has the *smallest* distance from the bottom to the top of its zone?

- A) troposphere C) thermosphere
B) mesosphere D) stratosphere

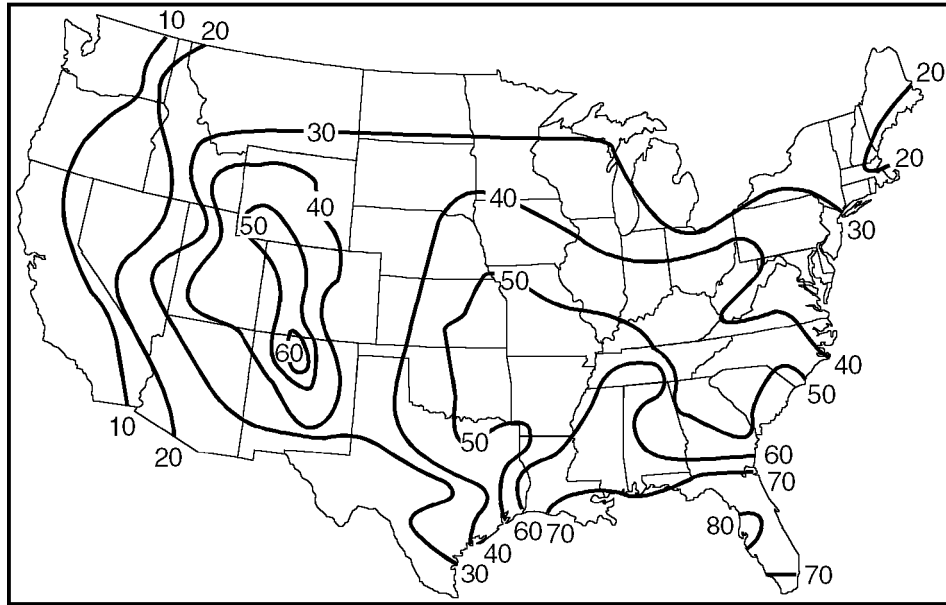
16) The polar circumference of the Earth is 40,008 kilometers. What is the equatorial circumference?

- A) 40,008 km B) 40,076 km C) 25,000 km D) 12,740 km

17) 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 3 p.m. What is the ship's longitude?

- A) 75° W) 45° B E) 45° C W) 75° E D

18) The map below shows the average yearly number of thunderstorms in the United States.



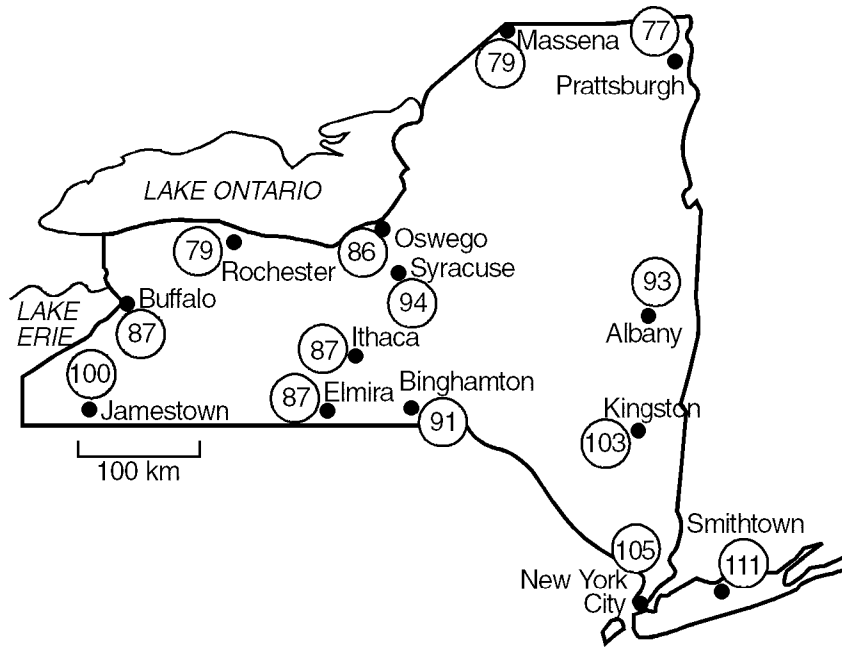
Approximately how many thunderstorms occur yearly in Albany, New York?

- A) 32 B) 41 C) 25 D) 19

19) What is the location of Binghamton, New York? [Refer to the *Earth Science Reference Tables*.]

- A) $42^\circ 54'$ N. lat., $76^\circ 05'$ W. long. C) $42^\circ 06'$ N. lat., $75^\circ 55'$ W. long.
 B) $42^\circ 54'$ N. lat., $75^\circ 55'$ W. long. D) $42^\circ 06'$ N. lat., $76^\circ 05'$ W. long.

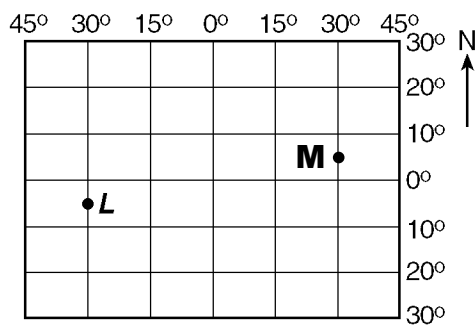
- 20) The map below shows average annual amounts of precipitation in centimeters for several selected locations within New York State.



In an eastward direction across New York State from Jamestown to Kingston, the average annual precipitation generally

- A) decreases, then increases
- B) decreases, only
- C) increases, then decreases
- D) increases, only

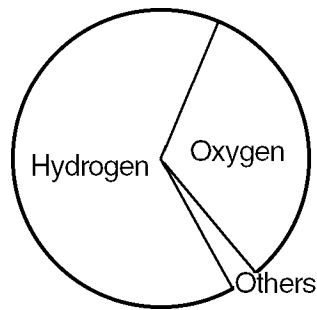
- 21) The diagram below represents part of Earth's latitude-longitude system.



What is the latitude and longitude of point L?

- A) 5° E, 30° N
- B) 5° N, 30° E
- C) 5° W, 30° E
- D) 5° S, 30° W

- 22) The graph below represents percentage of elements by volume.

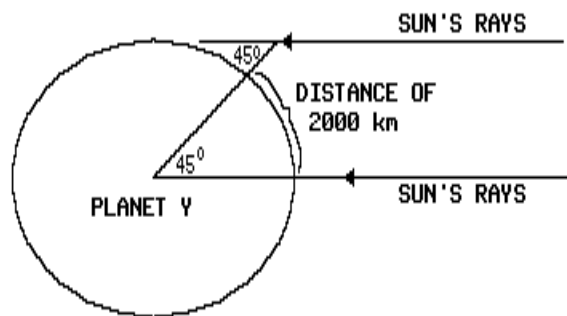


According to the *Earth Science Reference Tables*, this graph *best* represents the elements of the Earth's

- A) lithosphere B) hydrosphere C) stratosphere D) troposphere
- 23) Which diagram *best* represents the Earth with the ocean depth drawn to scale?

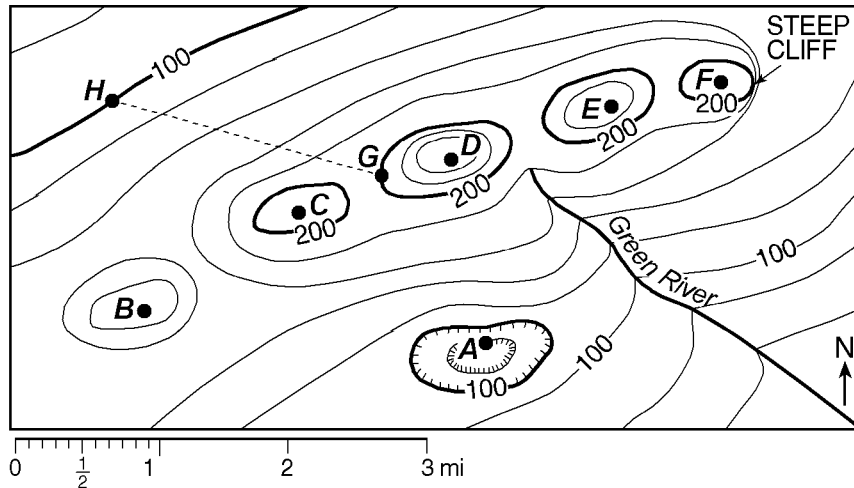


- 24) The *best* evidence that the Earth has a spherical shape would be provided by
- A) photographs of the Earth taken from space
 B) the change in the time of sunrise and sunset at a single location during 1 year
 C) the time the Earth takes to rotate on its axis at different times of the year
 D) the prevailing wind direction at many locations on the Earth's surface
- 25) Measurements taken from space show the Earth to be
- A) greatest in diameter at the Equator C) greatest in diameter at the poles
 B) pear shaped D) a perfect sphere
- 26) Based on the diagram below, what is the circumference of planet Y?



- A) 16,000 km B) 9,000 km C) 24,000 km D) 12,000 km

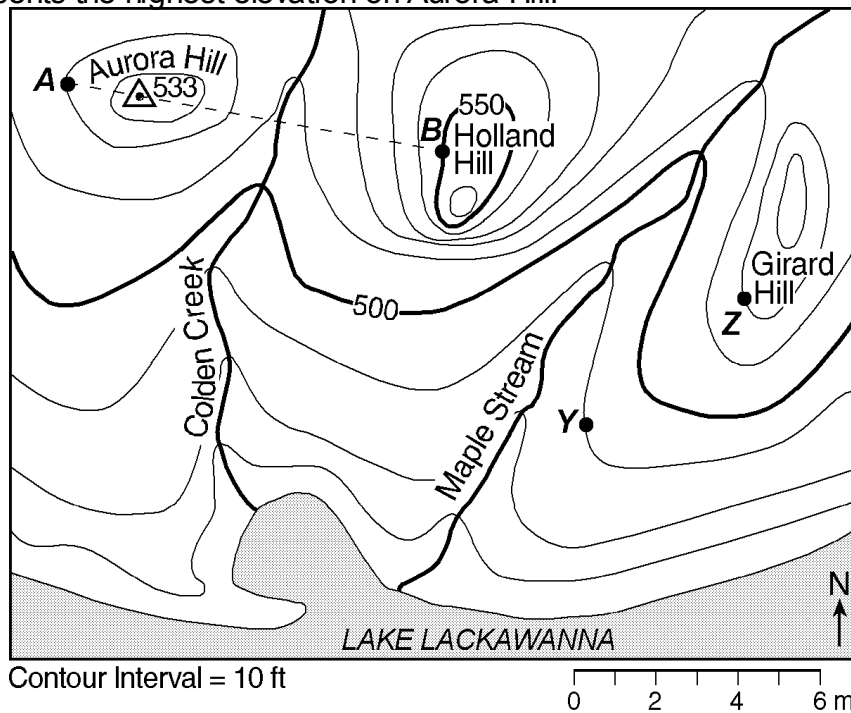
- 27) On the contour map below, letters *A* through *H* represent locations in the area represented by the map. Contour lines are labeled in feet.



Calculate the gradient of the slope along the dashed line between points *G* and *H* on the given map. [Label the answer with the correct units.]

Questions 28 and 29 refer to the following:

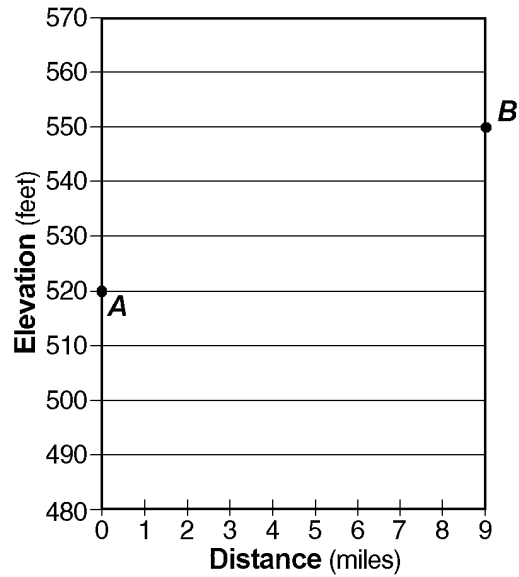
On the topographic map below, points *A*, *B*, *Y*, and *Z* are reference points on the topographic map. The symbol $\triangle 533$ represents the highest elevation on Aurora Hill.



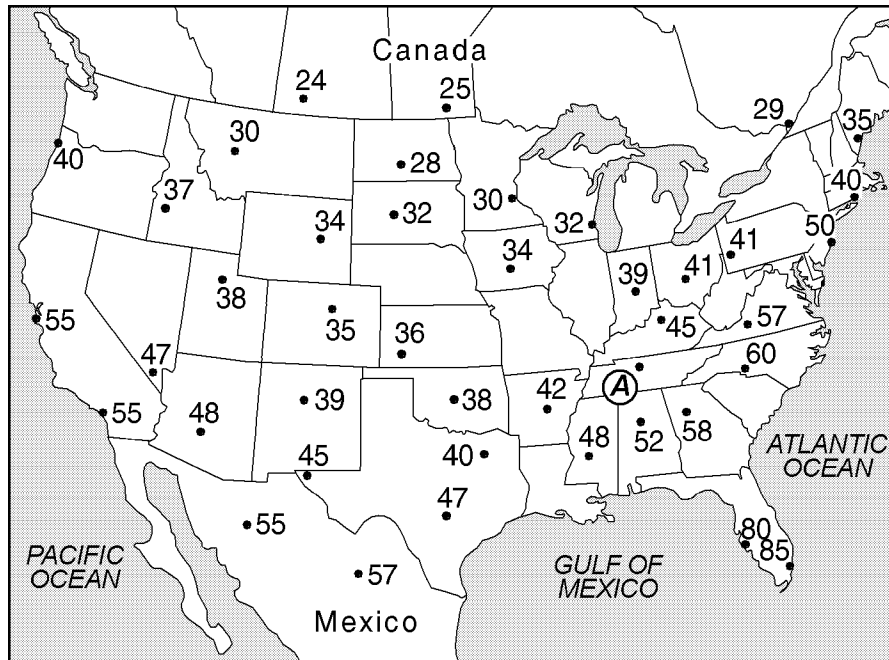
- 28) Describe the evidence shown on the map that indicates that the southern side of Holland Hill has the steepest slope.

29) On the grid below, construct a topographic profile from point *A* to point *B* by following the directions below.

- (a) Plot the elevation along line *AB* by marking with an **X** each point where a contour line is crossed by line *AB*. [*Points A and B have been plotted for you.*]
- (b) Complete the profile by correctly connecting the plotted points with a smooth, curved line.



- 30) The temperature field map below shows air temperatures, in degrees Fahrenheit, recorded at the same time at weather stations across North America. [The air temperature at location A has been deliberately left blank.]



- (a) On the map above, use smooth, curved solid lines to draw the 30°F , 40°F , and 50°F isotherms.
- (b) What is the *most* probable air temperature at location A?

- 1) C
- 2) A
- 3) B
- 4) A
- 5) C
- 6) B
- 7) C
- 8) A
- 9) C
- 10) A
- 11) D
- 12) D
- 13) D
- 14) C
- 15) A
- 16) B
- 17) A
- 18) C
- 19) C
- 20) A
- 21) B
- 22) B
- 23) C
- 24) A
- 25) A
- 26) A

27) 50(±3) feet per mile (ft/mi)

28) Answers may vary.

SAMPLE ANSWERS: Contour lines are closer together on the southern section of the hill. OR The south side has the greatest change in elevation per mile.

