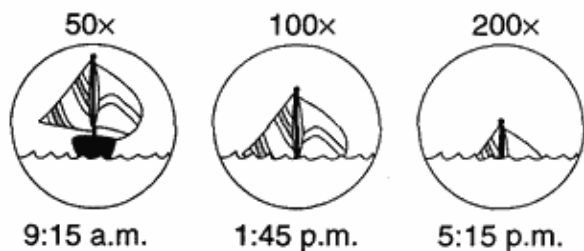1. Which sphere of earth covers approximately 70% of Earth's surface?

   A) lithosphere   **C) hydrosphere**
   B) asthenosphere   D) atmosphere

2. The diagrams below represent 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 explains the apparent sinking of this sailboat?

   A) The change in density of the atmosphere is causing refraction of light rays.
   B) The tide is causing an increase in the depth of the ocean.
   C) The sailboat appears smaller as it moves farther away.
   D) The sailboat is moving around the curved surface of Earth.

3. 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?

   A) 45° E   C) 45° W
   B) 75° W   D) 75° E

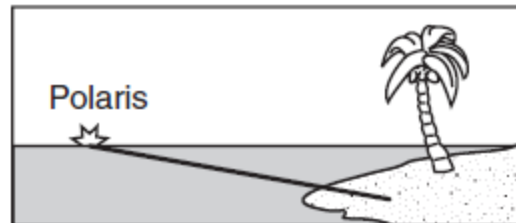4. From Utica, New York, *Polaris* is observed at an altitude of approximately

   A) 75°   B) 90°   **C) 43°**   D) 47°

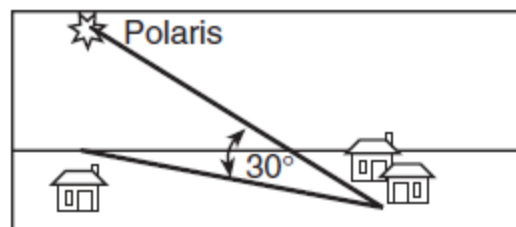5. Which two elements make up the greatest percentages by mass in Earth's crust?

   A) oxygen and silicon
   B) aluminum and potassium
   C) oxygen and potassium
   D) aluminum and silicon

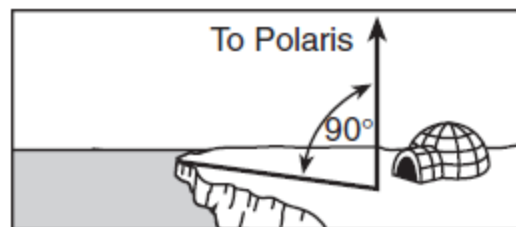6. Which statement about *Polaris* is best illustrated by the diagrams shown below?

   A) *Polaris* is located in a winter constellation
   B) *Polaris'* apparent movement through the sky follows a south-to-north orientation.
   C) *Polaris'* altitude is equal to a locations latitude.
   D) *Polaris* is located at the zenith at each location.

7. At what approximate altitude in the atmosphere can stratospheric ozone be found?

   A) 10 km   C) 70 km
   B) 30 km   D) 100 km

8. The angle of the star *Polaris* above the northern horizon can be used to determine an observer's

   A) longitude   C) solar time
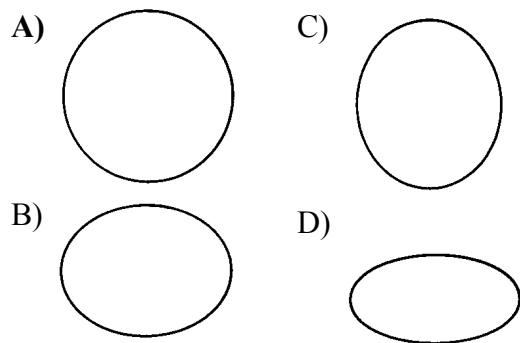   **B) latitude**   D) local time

9. Which diagram represents the approximate altitude of *Polaris* as seen by an observer located Syracuse, New York?

A)

43°

N   S

B)

20°

N   S

C)

N 0°   S

D)

90°

N   S
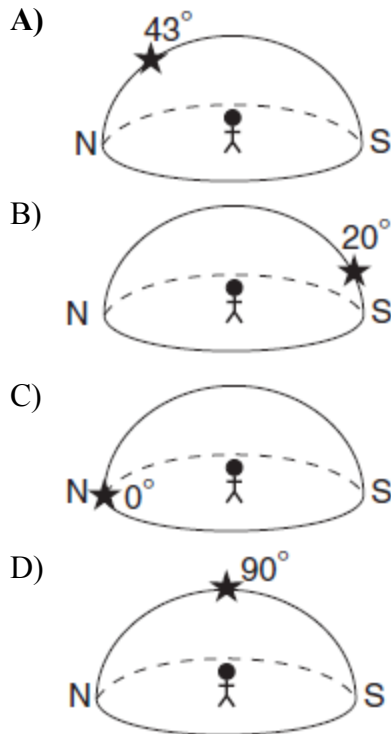
10. Which New York State city is located at 42°39' N 73°45' W?

A) Albany   C) Ithaca

B) Buffalo   D) Plattsburgh

11. Which diagram most accurately shows the cross-sectional shape of the Earth drawn to scale?

A)   C)

B)   D)

12. New York State's highest peak, Mt. Marcy, is located at approximately

A) 44°10' N 74°05' W
B) 44°05' N 73°55' W
C) 73°55' N 44°10' W
D) 74°05' N 44°05' W

13. Base your answer to the following question on the latitude and longitude system shown below. The map represents a part of the Earth's surface and its latitude-longitude coordinates. Points *A* through *F* represent locations in this area.
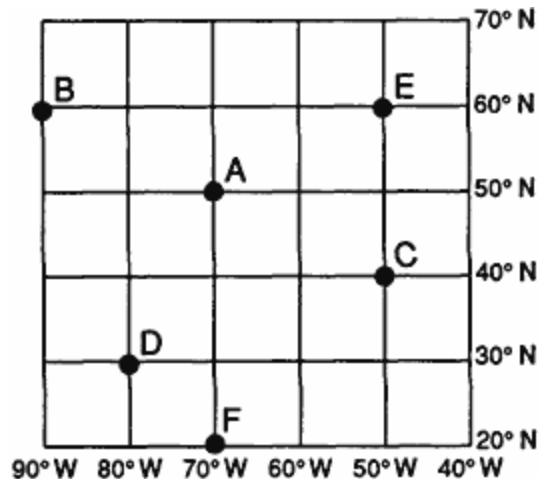
How are latitude and longitude lines drawn on a globe of the Earth?

A) Longitude lines are parallel and latitude lines meet at the Equator.
B) Latitude lines are parallel and longitude lines meet at the Equator.
C) Latitude lines are parallel and longitude lines meet at the poles.
D) Longitude lines are parallel and latitude lines meet at the poles.

14. The Earth is slightly flattened from a perfect spherical shape because of

A) the pull of the sun and moon
B) its rotation
C) its molten core
D) storms on the sun's surface

15. An observer watching a sailing ship at sea notes that the ship appears to be "sinking" as it moves away. Which statement best explains this observation?

A) The Earth has a curved surface.
B) The Earth is revolving.
C) The surface of the ocean has depressions.
D) The Earth is rotating.

16. What is the approximate altitude of *Polaris* at Syracuse, New York?

**A) 43°**   B) 47°   C) 76°   D) 90°

_____ 17. The map below shows four major time zones of the United States. The dashed lines represent meridians of longitude. The locations of New York City and Denver are shown.
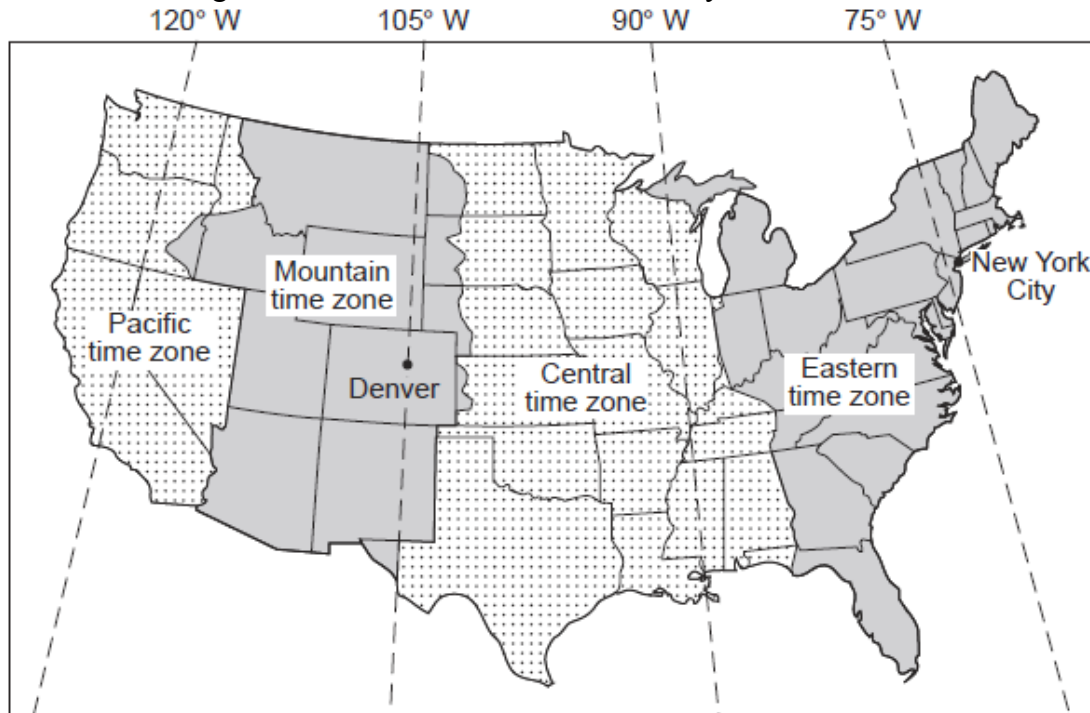
What is the time in New York City when it is noon in Denver?

A) 3 p.m.   **B) 2 p.m.**   C) 10 a.m.   D) noon

_____ 18. The diagram below shows an observer on Earth measuring the altitude of *Polaris*.

What is the latitude of this observer?

A) 47° N   C) 47° S
B) 43° N   D) 43° S

_____ 19. At which New York State location would an observer measure the highest altitude of *Polaris*?

A) Slide Mountain   C) New York City
B) Niagara Falls   **D) Plattsburgh**

_____ 20. As a person travels due west across New York State, the altitude of *Polaris* will

A) decrease   **C) remain the same**
B) increase

_____ 21. The Earth's actual shape is most correctly described as

A) an oblate sphere
B) a circle
C) an eccentric ellipse
D) a perfect sphere

_____ 22. Precise measurements of the Earth indicate that its polar diameter is

A) shorter than its equatorial diameter
B) longer than its equatorial diameter
C) the same length as its equatorial diameter

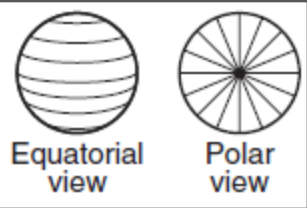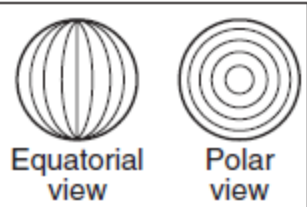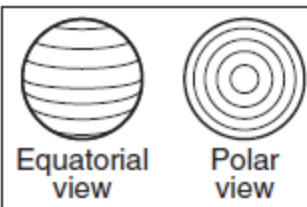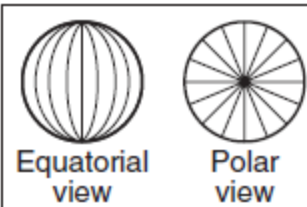23. The diagram below shows an observer measuring the altitude of *Polaris*.

Line of sight

Observer

Polaris is
20° above
the horizon.
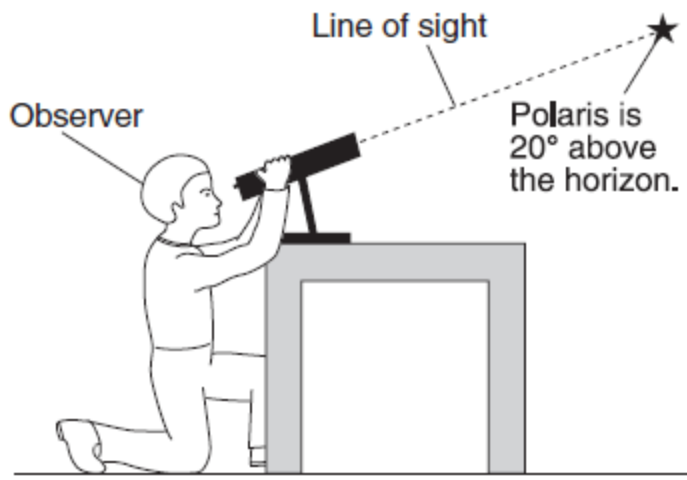
(Not drawn to scale)

What is the latitude of the observer?

A) 70° N   B) 70° S   **C) 20° N**   D) 20° S
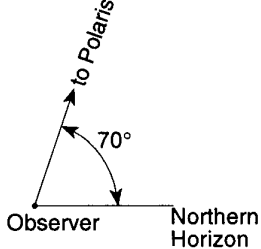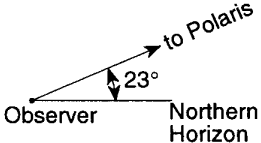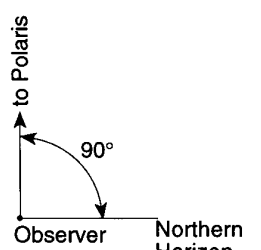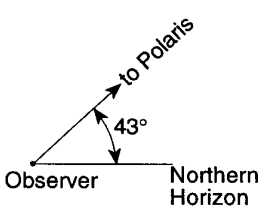
24. The lines on which set of views best represent
Earth's latitude system?

A)

Equatorial   Polar
view   view

B)

Equatorial   Polar
view   view

C)

Equatorial   Polar
view   view

D)

Equatorial   Polar
view   view

25. At which location is the altitude of *Polaris*
approximately 42°?

A) Elmira   C) Niagara Falls

B) Watertown   D) Massena

26. "Which diagram best shows the altitude of
Polaris observed near Buffalo, New York?"

A)

to Polaris

70°

Observer   Northern
Horizon

B)

to Polaris

23°

Observer   Northern
Horizon

C)

to Polaris

90°

Observer   Northern
Horizon

D)

to Polaris

43°

Observer   Northern
Horizon

27. The diagram below represents a view of Earth from above the North Pole. Points *A* and *B* represent locations on Earth's surface.
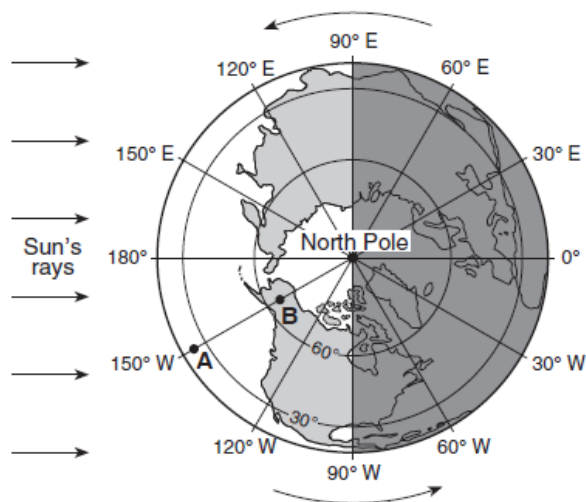
Locations *A* and *B* have the same

A) longitude and elevation
B) longitude and local time
C) latitude and local time
D) latitude and elevation

28. In the diagram below, letters *A* through *D* represent the locations of four observers on the Earth's surface. Each observer has the same mass.
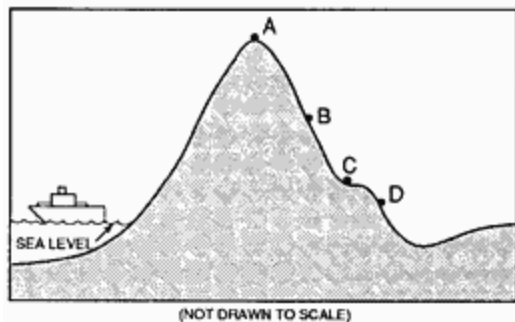
The gravitational force is strongest between the center of the Earth and the observer at location

A) *A*   B) *B*   C) *C*   **D) *D***

29. In which two Earth regions is oxygen the second most abundant element by volume?

A) troposphere and core
B) core and crust
C) crust and hydrosphere
**D) hydrosphere and troposphere**

30. The table below shows the distance that an observer must travel on a north-south line along the surface of the Earth in order to change the observed altitude of *Polaris* by 5°.

| LATITUDE	DISTANCE TRAVELED TO CHANGE THE OBSERVED ALTITUDE OF POLARIS BY 5°
Between 0° and 5° N	552.75 kilometers
Between 45° N and 50° N	555.78 kilometers
Between 85° N and 90° N	558.36 kilometers

The best inference about the Earth's shape that can be made from these observations is that the Earth

A) is flattened at the Equator
B) has a very smooth surface
C) is a perfect sphere
D) has a curved surface

31. The north-south distance between the Earth's Equator (0°) and the North Pole (90° N) is 10,002 kilometers. The distance between 0° and 10° N is 1,106 kilometers. Which statement is best supported by this information?

A) The north-south distance for every 10° of latitude is a constant value.
B) The shape of the Earth is not perfectly spherical.
C) The lines of longitude are not parallel.
D) The Earth's equatorial radius and polar radius are equal.

32. As a person travels northward from the Equator, the altitude of *Polaris* will appear to

A) decrease   C) remain the same
B) increase

33. Which statement best explains why stars viewed from the Northern Hemisphere appear to revolve around *Polaris*?

A) *Polaris* rotates on its axis.
B) Earth revolves around *Polaris*.
C) Earth rotates on its axis
D) *Polaris* revolves around Earth.

34. The diagrams below represent four systems of imaginary lines that could be used to locate positions on a planet. Which system is most similar to the latitude-longitude system used on the Earth?

A)   C)

B)   D)
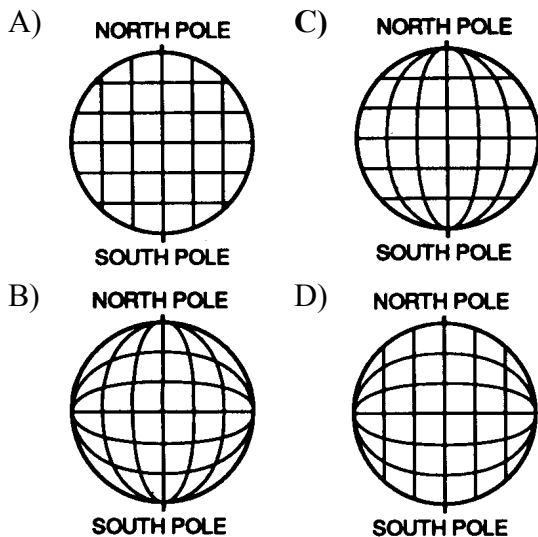
35. The diagram below shows an observer on Earth viewing the star *Polaris*.
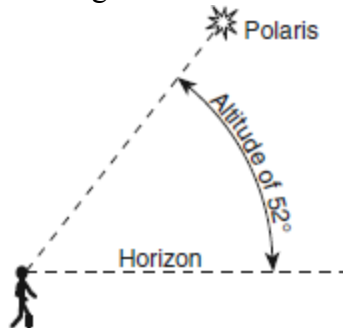
What is the observer's latitude?

A) 38° N   C) 52° S
B) 52° N   D) 38° S

36. The best evidence that the Earth has a spherical shape is provided by

A) the amount of daylight received at the North Pole on June 21
B) the cyclic change of seasons
C) photographs of the Earth taken from space satellites
D) the changing orbital speed of the Earth in its orbit around the Sun

37. A gravity meter is used to measure the amount of gravitational pull at the Earth's North Pole and at the Earth's Equator. How would these readings of gravitational pull compare? [Assume both readings are taken at sea level.]

A) The reading would be lower at the North Pole than at the Equator.
B) The readings would be the same at the North Pole and at the Equator.
C) The reading would be higher at the North Pole than at the Equator.

38. Which reference line passes through both the geographic North Pole and the geographic South Pole?

A) 0° latitude
B) Tropic of Capricorn
C) Tropic of Cancer
D) 0° longitude

39. The best evidence of the Earth's nearly spherical shape is obtained through

A) observations of the Moon made during lunar eclipses
B) photographs of the Earth from an orbiting satellite
C) telescopic observations of other planets
D) observations of the Sun's altitude made during the day

40. Which object best represents a true scale model of the shape of the Earth?

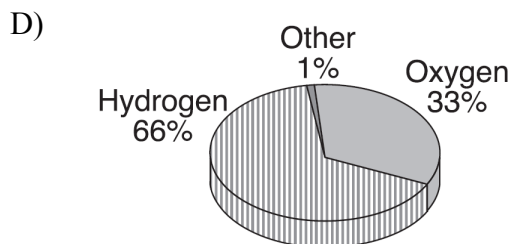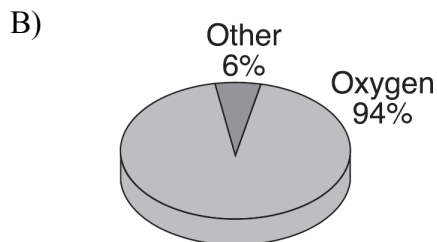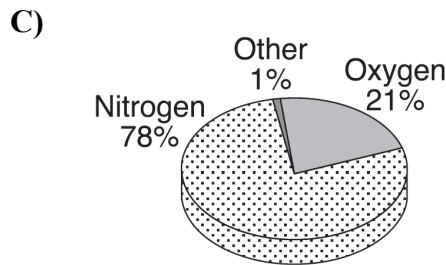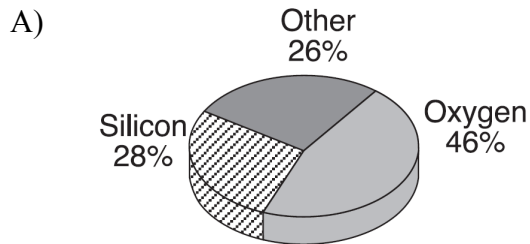A) a pear   C) a football
B) a Ping-Pong ball   D) an egg

41. Measurements taken from space show the Earth to be

A) greatest in diameter at the poles
B) greatest in diameter at the Equator
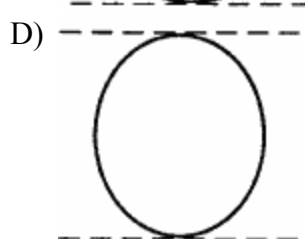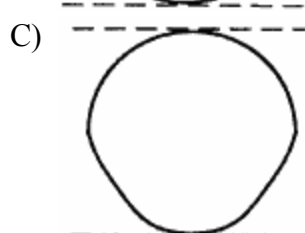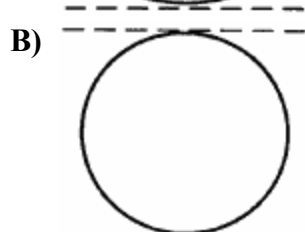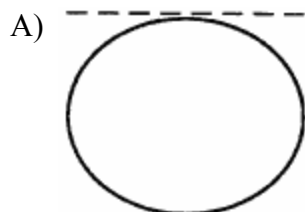C) a perfect sphere
D) pear shaped

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

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

____ 43. Which pie graph correctly shows the percentage of elements by volume in Earth's troposphere?

A)

Other 26%
Silicon 28%
Oxygen 46%

C)

Other 1%
Oxygen 21%
Nitrogen 78%

B)

Other 6%
Oxygen 94%

D)

Other 1%
Oxygen 33%
Hydrogen 66%

____ 44. Which diagram most accurately shows the cross-sectional shape of the Earth?

A)

B)

C)

D)

____ 45. If an observer on Earth views *Polaris* on the horizon, the observer is located at the

A) Tropic of Cancer (23.5° N)
B) North Pole (90° N)
C) Tropic of Capricorn (23.5° S)
D) equator (0°)

____ 46. According to the data below, what is the exact shape of the Earth?

Actual Dimensions of the Earth

Equatorial Radius	6,378 km
Polar Radius	6,357 km
Equatorial Circumference	40,076 km
Polar Circumference	40,008 km

A) slightly bulging at both the Equator and the Poles
B) slightly flattened at both the Equator and the Poles
C) slightly flattened at the Equator and slightly bulging at the Poles
D) slightly flattened at the Poles and slightly bulging at the Equator

____ 47. Compared to the weight of a person at the North Pole, the weight of the same person at the Equator would be

A) slightly less, because the person is farther from the center of Earth
B) slightly more, because the person is farther from the center of Earth
C) slightly less, because the person is closer to the center of Earth
D) slightly more, because the person is closer to the center of Earth

____ 48. Base your answer to the following question on the block diagram below, which represents the landscape features associated with a meandering stream. *WX* is the location of a cross section. Location *A* indicates a landscape feature.
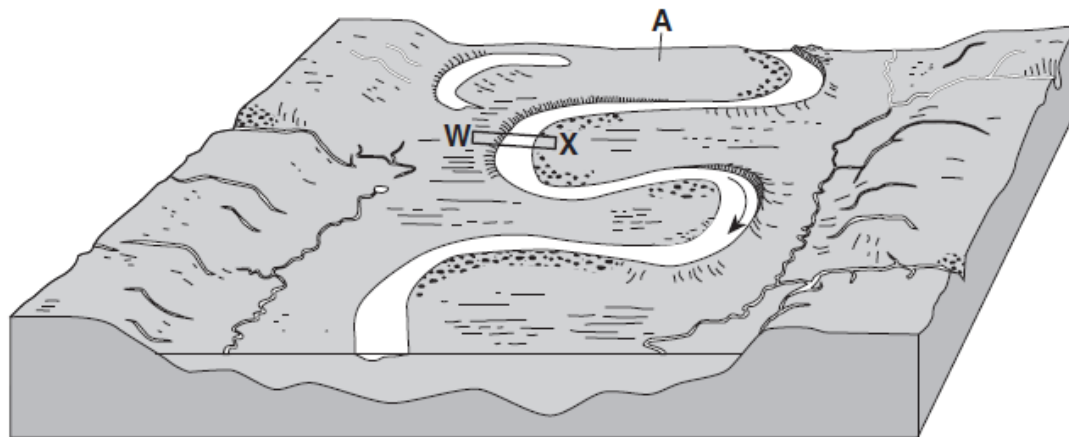

(Not drawn to scale)

Which particle of quartz shows evidence of being transported the farthest distance by the stream?

A)

C)

B)

D)
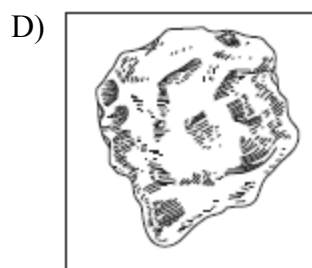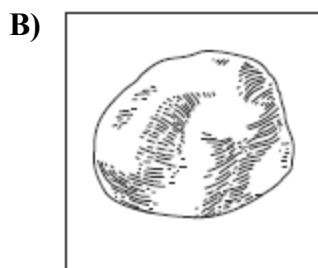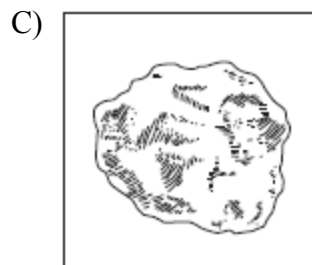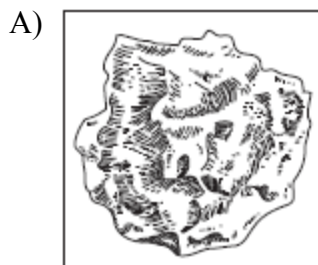
____ 49. In which two temperature zones of the atmosphere does the temperature increase with increasing altitude?

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

____ 50. The diagram below shows an observer on Earth
measuring the altitude of *Polaris*.
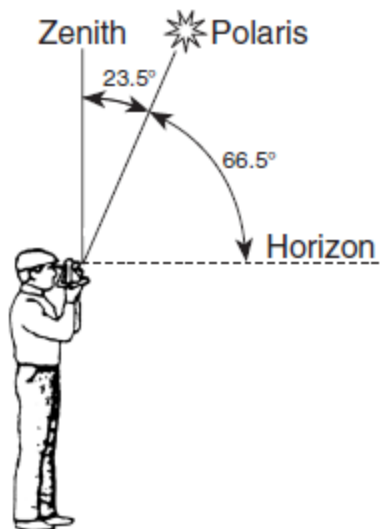
What is the latitude of this observer?

A) **66.5° N**   C) 90° N
B) 23.5° N   D) 43° N

Answer Key
Unit 2 practice 18.19

1. C
2. D
3. B
4. C
5. A
6. C
7. B
8. B
9. A
10. A
11. A
12. B
13. C
14. B
15. A
16. A
17. B
18. B
19. D
20. C
21. A
22. A
23. C
24. C
25. A
26. D
27. B
28. D
29. D
30. D
31. B
32. B
33. C
34. C
35. B
36. C
37. C

38. D
39. B
40. B
41. B
42. D
43. C
44. B
45. D
46. D
47. A
48. B
49. A
50. A

Question ID's in Numerical Order

31. 308
46. 439
39. 589
15. 700
11. 853
32. 965
42. 1001
30. 1057
28. 1063
36. 1286
34. 1289
37. 1458
20. 1937
41. 2036
8. 2202
22. 2578
47. 2637
40. 2844
21. 3016
2. 3098
38. 3225
44. 3334
26. 3433
14. 4136
3. 4626
9. 4691
18. 4908
6. 5387
24. 5468
50. 5551
23. 6058
35. 6302
13. 2014
25. 6386
49. 6394
19. 6476
4. 6565
48. 6596
45. 6746
43. 6771
16. 6839
29. 7280
7. 7356
10. 7600
17. 7714
5. 7864
12. 604
33. 8303
27. 8401
1. 8485