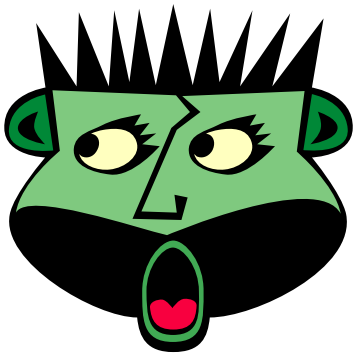
By Zach Miller. Interactivity originally by Charles Burrows.



The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

PHYSICAL SETTING
EARTH SCIENCE

Thursday, August 13, 2009 — 12:30 to 3:30 p.m., only

This is a test of your knowledge of Earth science. Use that knowledge to answer all questions in this examination. Some questions may require the use of the *Earth Science Reference Tables*. The *Earth Science Reference Tables* are supplied separately. Be certain you have a copy of the *2001 Edition (Revised November 2006)* of these reference tables before you begin the examination.

Your answer sheet for Part A and Part B–1 is the last page of this examination booklet. Turn to the last page and fold it along the perforations. Then, slowly and carefully, tear off your answer sheet and fill in the heading.

The answers to the questions in Part B–2 and Part C are to be written in your separate answer booklet. Be sure to fill in the heading on the front of your answer booklet.

You are to answer *all* questions in all parts of this examination according to the directions provided in the examination booklet. Record your answers to the Part A and Part B–1 multiple-choice questions on your separate answer sheet. Write your answers to the Part B–2 and Part C questions in your answer booklet. All work should be written in pen, except for graphs and drawings, which should be done in pencil. You may use scrap paper to work out the answers to the questions, but be sure to record all your answers on your separate answer sheet and in your answer booklet.

When you have completed the examination, you must sign the statement printed at the end of your separate answer sheet, indicating that you had no unlawful knowledge of the questions or answers prior to the examination and that you have neither given nor received assistance in answering any of the questions during the examination. Your answer sheet and answer booklet cannot be accepted if you fail to sign this declaration.

Notice. . .

A four-function or scientific calculator and a copy of the *2001 Earth Science Reference Tables (Revised November 2006)* must be available for you to use while taking this examination.

The use of any communications device is strictly prohibited when taking this examination. If you use any communications device, no matter how briefly, your examination will be invalidated and no score will be calculated for you.

DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.

Part A

Answer all questions in this part.

Directions (1–35): For *each* statement or question, write on your separate answer sheet the *number* of the word or expression that, of those given, best completes the statement or answers the question. Some questions may require the use of the *Earth Science Reference Tables*.

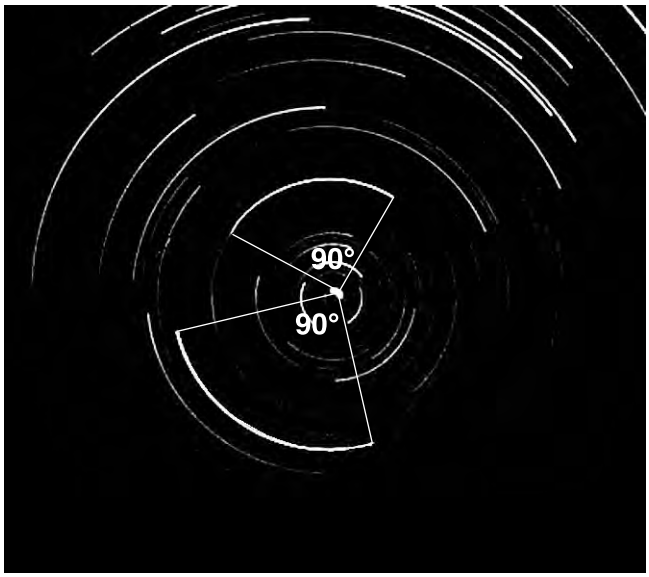
1 An observer recorded the times of three successive high tides at one Earth location as:

- 7:12 a.m.
- 7:38 p.m.
- 8:04 a.m.

What was the time of the next high tide?

(1) 8:12 p.m.
(2) 8:30 p.m.
(3) 8:38 p.m.
(4) 9:04 p.m.

2 A camera was placed in an open field and pointed toward the northern sky. The lens of the camera was left open for a certain amount of time. The result is shown in the photograph below. The angle of the arc through which two of the stars appeared to move during this time exposure is shown.



How many hours was the lens left open to produce the photograph?

(1) 12
(2) 2
(3) 6
(4) 4

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

(1) Niagara Falls
(2) Elmira
(3) Watertown
(4) Massena

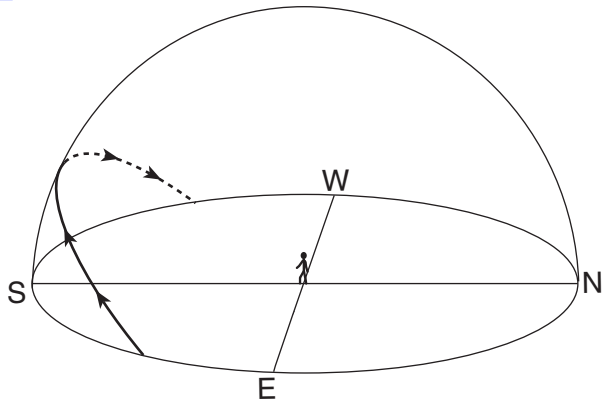
4 At which latitude is the Sun directly overhead on certain days of the year?

(1) 23.5° N
(2) 42° N
(3) 66.5° N
(4) 90° N

5 Which motion causes the constellation Orion to be visible at midnight from New York State in winter but not in summer?

(1) rotation of Earth
(2) rotation of Orion
(3) revolution of Earth
(4) revolution of Orion

6 The model below shows the Sun's apparent path across the sky for an observer in New York State.



On which day of the year was this path observed?

(1) March 21
(2) June 21
(3) September 21
(4) December 21

7 What does a red shift in light from distant celestial objects indicate to a scientist on Earth?

(1) The gravitational force on Earth changes.
(2) The universe appears to be expanding.
(3) The Jovian planets are aligned with the Sun.
(4) Galaxies are becoming more numerous.

8 During a heavy rainstorm, runoff is most likely to occur if the surface soil is

(1) firmly packed clay-sized particles
(2) loosely packed sand-sized particles
(3) covered by trees, shrubs, and grasses
(4) unsaturated and has a gentle slope

9 By which process do plants add water vapor to the atmosphere?

(1) precipitation
(2) transpiration
(3) condensation
(4) absorption

10 Cloud formation is likely to occur in rising air because rising air

(1) expands and cools
(2) expands and warms
(3) contracts and cools
(4) contracts and warms

11 In which two temperature zones of the atmosphere does the temperature increase with increasing altitude?

(1) troposphere and stratosphere
(2) troposphere and mesosphere
(3) stratosphere and thermosphere
(4) mesosphere and thermosphere

12 Which type of electromagnetic radiation has the longest wavelength?

(1) ultraviolet
(2) gamma rays
(3) visible light
(4) radio waves

13 Which cold ocean current affects the climate of the northeastern coast of North America?

(1) Gulf Stream
(2) Canaries
(3) Labrador
(4) North Atlantic

14 Which change would cause a *decrease* in the amount of insolation absorbed at Earth's surface?

(1) a decrease in cloud cover
(2) a decrease in atmospheric transparency
(3) an increase in the duration of daylight
(4) an increase in nitrogen gas

15 Most sandstone bedrock is composed of sediment that was

(1) sorted by size and not layered
(2) sorted by size and layered
(3) unsorted and not layered
(4) unsorted and layered

16 Which event temporarily slows or reverses surface ocean currents in the equatorial region of the Pacific Ocean, causing a disruption of normal weather patterns?

(1) tsunami
(2) volcanic eruption
(3) El Niño
(4) deforestation

17 Increasing the amount of carbon dioxide in Earth's atmosphere increases atmospheric temperature because the carbon dioxide absorbs

(1) incoming solar gamma ray radiation
(2) incoming solar visible light radiation
(3) outgoing terrestrial ultraviolet radiation
(4) outgoing terrestrial infrared radiation

18 The basaltic bedrock of the oceanic crust is classified as

(1) felsic, with a density of 2.7 g/cm^3
(2) felsic, with a density of 3.0 g/cm^3
(3) mafic, with a density of 2.7 g/cm^3
(4) mafic, with a density of 3.0 g/cm^3

19 At which plate boundary is one lithospheric plate sliding under another?

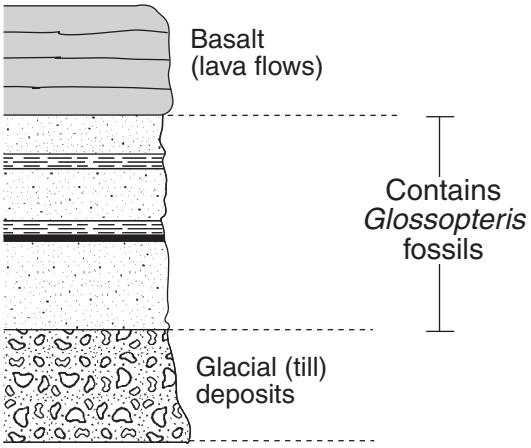
(1) Nazca Plate and Antarctic Plate
(2) Pacific Plate and Indian-Australian Plate
(3) Indian-Australian Plate and Antarctic Plate
(4) Nazca Plate and Pacific Plate

20 The photograph below shows a large boulder of metamorphic rock in a field in the Allegheny Plateau region of New York State.

The boulder was most likely moved to this location by

(1) glacial ice
(2) prevailing wind
(3) streamflow
(4) volcanic action

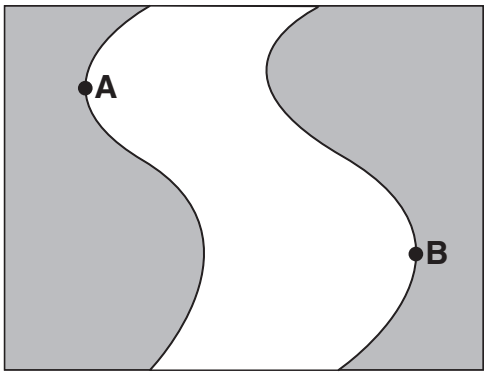
21 The cross section below shows a rock sequence that has not been overturned.



Which event occurred last at this location?

(1) Shale was deposited.
(2) Glacial till was deposited.
(3) Basaltic lava flows solidified.
(4) *Glossopteris* flourished and then became extinct.

22 The map below shows a meandering river. Points *A* and *B* are locations on the banks of the river.



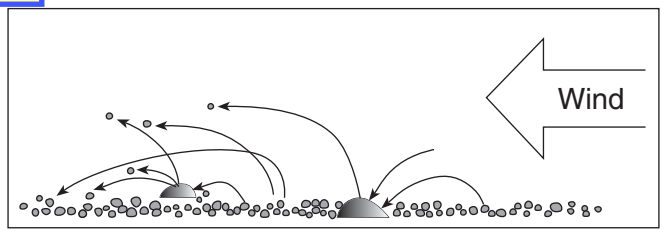
What are the dominant processes occurring at locations *A* and *B*?

(1) deposition at location *A*; erosion at location *B*
(2) erosion at location *A*; deposition at location *B*
(3) deposition at both locations *A* and *B*
(4) erosion at both locations *A* and *B*

23 Which event in Earth's history was dependent on the development of a certain type of life-form?

(1) addition of free oxygen to Earth's atmosphere
(2) formation of clastic sedimentary rocks
(3) movement of tectonic plates
(4) filling of the oceans by precipitation

24 The diagram below shows sand particles being moved by wind.

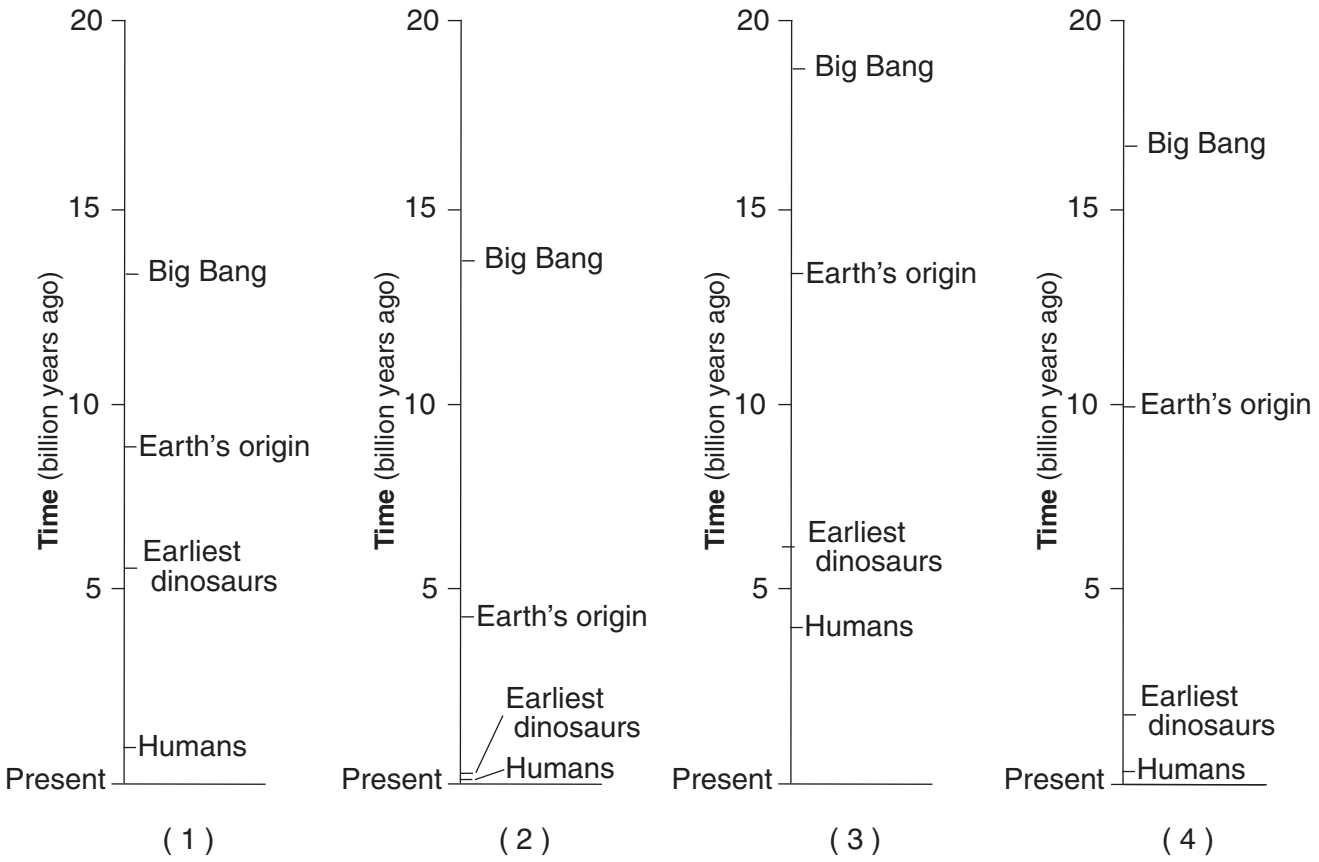


At which Earth surface locations is this process usually the most dominant type of erosion?

(1) deserts and beaches
(2) deltas and floodplains
(3) glaciers and moraines
(4) mountain peaks and escarpments

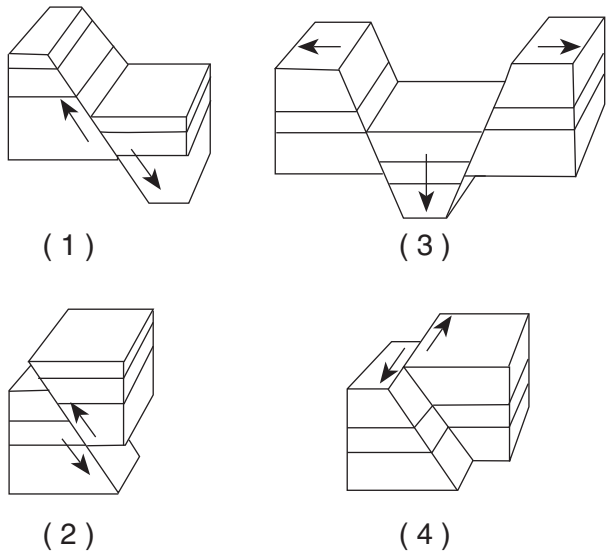
25 Which time line most accurately indicates when this sequence of events in Earth's history occurred?

?



26 Which block diagram best shows a transform fault?

?



27 Which property is most useful in distinguishing pyroxene from amphibole?

?

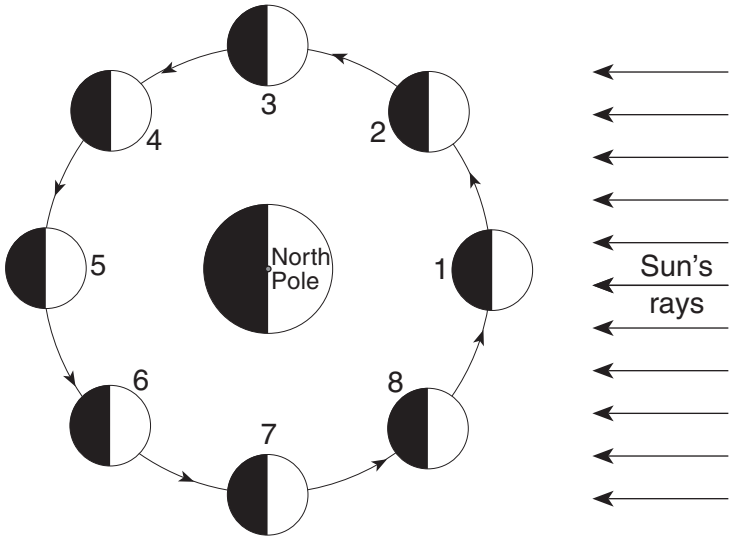
(1) sample size
(2) hardness
(3) type of luster
(4) angles of cleavage

28 Earth's inner core is inferred to be solid based on the analysis of

?

(1) seismic waves
(2) crustal rocks
(3) radioactive decay rates
(4) magnetic pole reversals

29 The diagram below shows the Moon as it revolves around Earth. The numbered locations represent different positions of the Moon in its orbit.

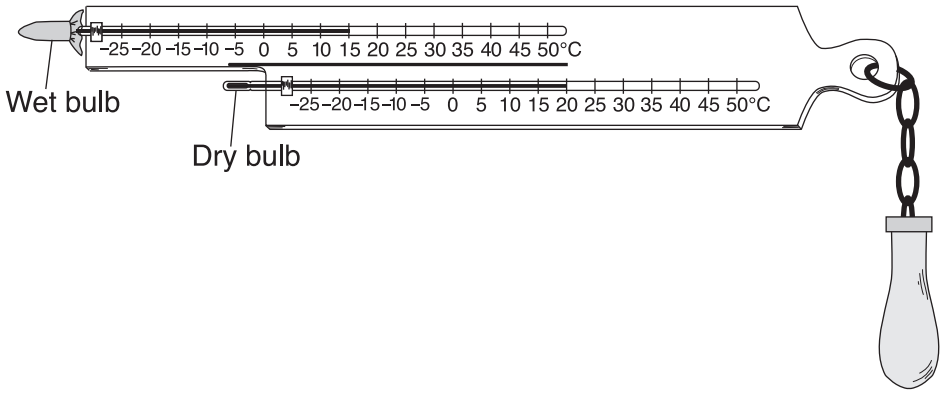


(Not drawn to scale)

? Which Moon phase would be seen by an observer in New York State when the Moon is at position 2?

(1) (2) (3) (4)

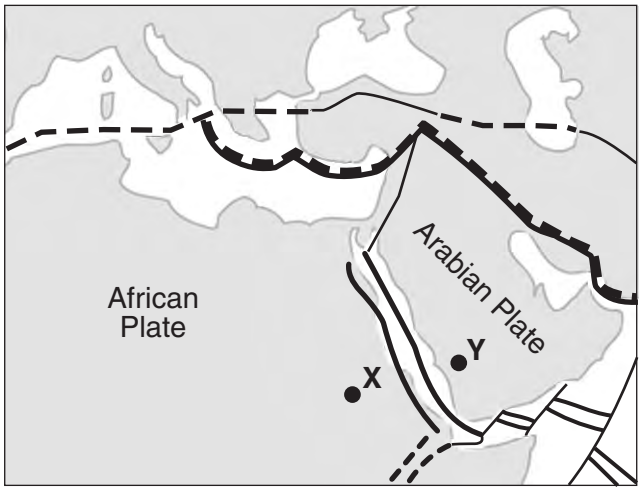
30 The diagram below shows a sling psychrometer.



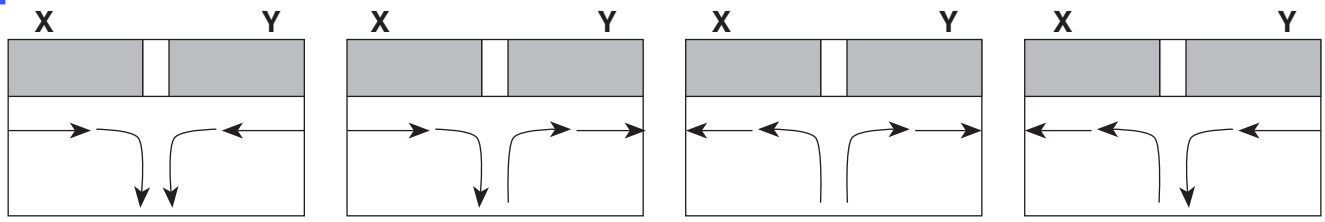
? Based on the dry-bulb temperature and the wet-bulb temperature, what is the dewpoint?

(1) 5°C
(2) 12°C
(3) 14°C
(4) 16°C

31 The map below shows a portion of Earth's surface. Points *X* and *Y* are locations on the lithosphere.

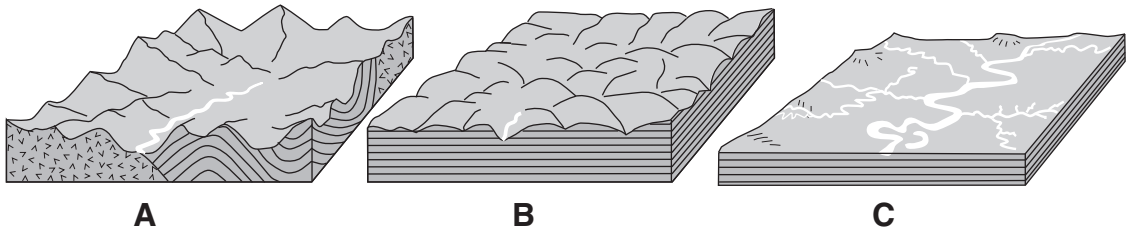


? Which cross section shows the inferred movement of material in the asthenosphere beneath points *X* and *Y*?



32 The block diagrams below, labeled *A*, *B*, and *C*, show the relative elevation and rock structure of three different landscape regions.

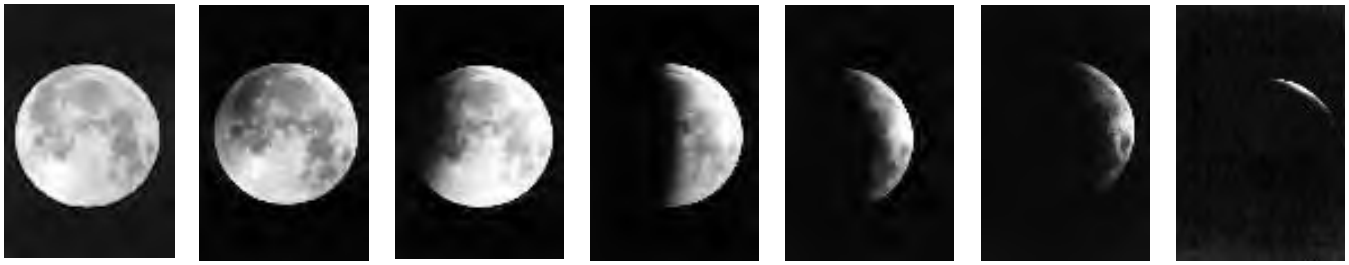
?



Which set correctly identifies the landscape region shown in each block diagram?

(1) *A*–mountain, *B*–plateau, *C*–plain
(2) *A*–mountain, *B*–plain, *C*–plateau
(3) *A*–plateau, *B*–mountain, *C*–plain
(4) *A*–plateau, *B*–plain, *C*–mountain

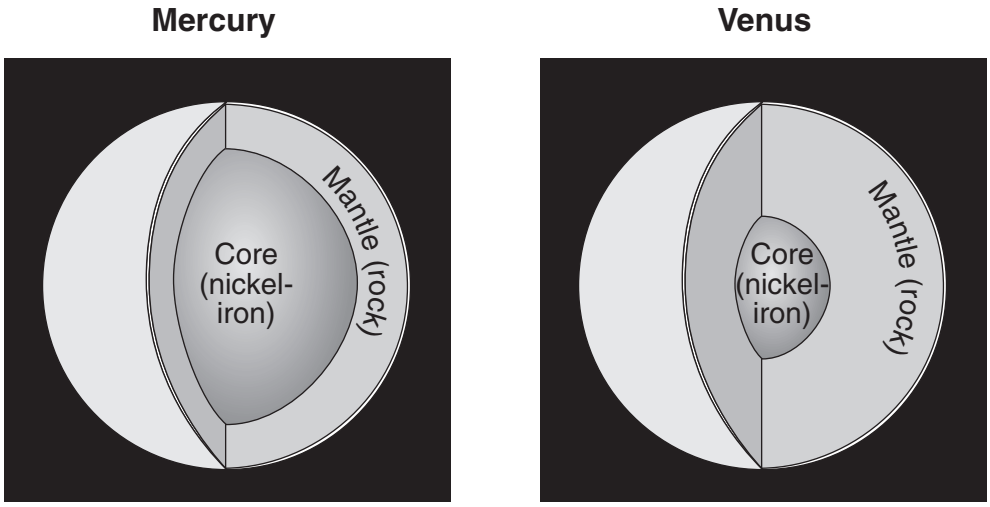
33 The photographs below show the surface of the Moon as seen from Earth over an 80-minute period during a single night.



Which motion is responsible for this changing appearance of the Moon?

(1) The Moon moves into the shadow of Earth.
(2) The Moon moves into the shadow of the Sun.
(3) The Sun moves into the shadow of Earth.
(4) The Sun moves into the shadow of the Moon.

34 The diagram below shows cutaway views of the inferred interior layers of the planets Mercury and Venus.

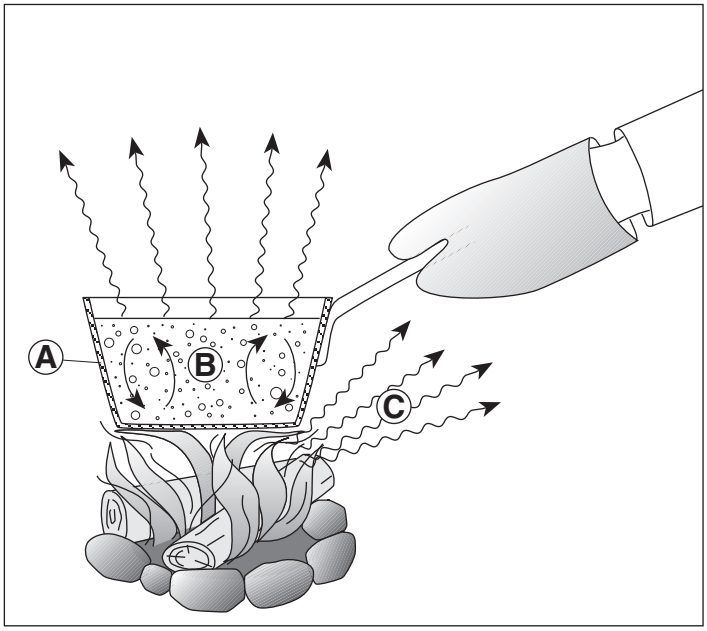


(Not drawn to scale)

What is the reason for the development of the interior layers of these two planets?

(1) Impact events added the mantle rock above the cores.
(2) Heat from the Sun melted the surface rocks to form the mantles above the cores.
(3) Gravity separated the cores and mantles due to their density differences.
(4) Rapid heat loss caused the cores to solidify before the mantles.

35 The diagram below shows a student heating a pot of water over a fire. The arrows represent the transfer of heat. Letter *A* represents heat transfer through the metal pot, *B* represents heat transfer by currents in the water, and *C* represents heat that is felt in the air surrounding the pot.



? Which table correctly identifies the types of heat transfer at *A*, *B*, and *C*?

Letter	Type of Heat Transfer
A	conduction
B	radiation
C	convection

(1)

Letter	Type of Heat Transfer
A	radiation
B	conduction
C	convection

(3)

Letter	Type of Heat Transfer
A	conduction
B	convection
C	radiation

(2)

Letter	Type of Heat Transfer
A	radiation
B	convection
C	conduction

(4)

Part B–1

Answer all questions in this part.

Directions (36–50): For *each* statement or question, write on your separate answer sheet the *number* of the word or expression that, of those given, best completes the statement or answers the question. Some questions may require the use of the *Earth Science Reference Tables*.

Base your answers to questions 36 through 39 on the photographs and news article below.

Granite profile of the Old Man of the Mountain is shown before the collapse, and after

Old Man's Loss Felt in New Hampshire

FRANCONIA, N.H. — Crowds of visitors were drawn to Franconia Notch on Sunday to mourn the loss of New Hampshire's well-known symbol — the Old Man of the Mountain granite profile.

The 700-ton natural formation was just a pile of rocks after breaking loose from its 1,200-foot-high mountainside perch. It was unclear when the outcropping fell because clouds had obscured the area Thursday and Friday; a state park trail crew discovered the collapse Saturday morning.

The famous mountain's history dates millions of years. Over time, nature carved out a 40-foot-tall profile resembling an old man's face, and it eventually became New Hampshire's most recognizable symbol.

The Buffalo News, May 5, 2003

36 Which agent of erosion is most likely responsible for the collapse of the granite profile?

?

(1) running water
(2) glacial ice
(3) wave action
(4) mass movement

37 The granite bedrock formed when

?

(1) sediments were buried
(2) a volcano erupted
(3) magma cooled underground
(4) limestone recrystallized

38 The rock of the Old Man of the Mountain most likely includes a mineral with a composition of

?

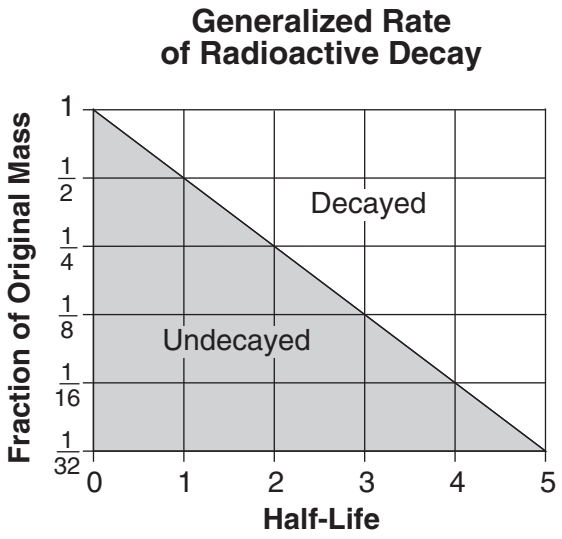
(1) NaCl
(2) SiO_2
(3) FeS_2
(4) PbS

39 What does granite bedrock found high on a mountaintop indicate?

?

(1) The crust has been sinking.
(2) Global temperatures have cooled.
(3) A large amount of erosion has occurred.
(4) Sea level has risen.

Base your answers to questions 40 and 41 on the graph below, which shows the generalized rate of decay of radioactive isotopes over 5 half-lives.



40 If the original mass of a radioactive isotope was 24 grams, how many grams would remain after 3 half-lives?

?

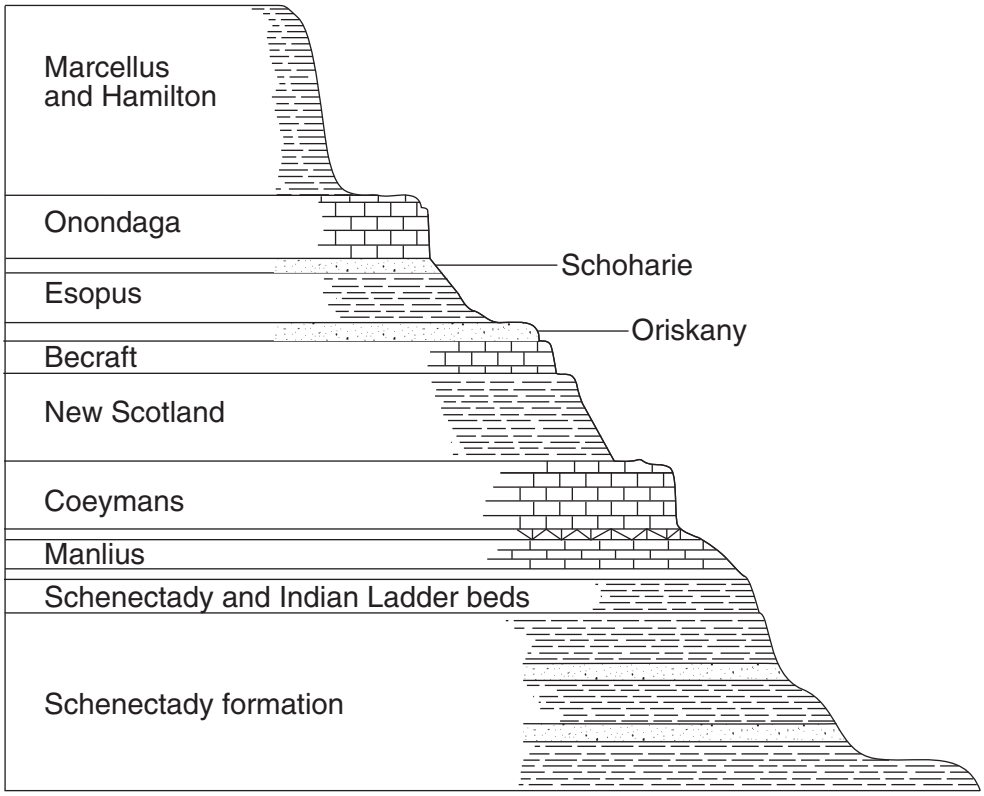
(1) 12
(2) 24
(3) 3
(4) 6

41 Which radioactive isotope takes the greatest amount of time to undergo the change shown on the graph?

?

(1) carbon-14
(2) potassium-40
(3) uranium-238
(4) rubidium-87

Base your answers to questions 42 through 44 on the cross section below, which shows the bedrock of a portion of the Helderberg Escarpment, located in Thacher State Park near Albany, New York. The rock formations are identified by name.



42 Which formations appear to be the most resistant to weathering?

?

(1) Esopus and Oriskany
(2) Onondaga and Coeymans
(3) Schoharie, and Marcellus and Hamilton
(4) New Scotland, and Schenectady and Indian Ladder beds

43 What is the main factor that causes the bedrock to weather at different rates?

?

(1) elevation above sea level
(2) mineral composition
(3) age of rock layers
(4) environment of formation

44 The Manlius layer formed during the early Devonian Period. What type of fossils could possibly be found in the Manlius layer?

?

(1) earliest birds
(2) earliest reptiles
(3) *Tetragraptus*
(4) *Ctenocrinus*

Base your answers to questions 45 through 47 on the data table below, which shows information about the four largest asteroids found in our solar system.

Data Table

Name	**Average Diameter** (kilometers)	**Period of Revolution** (years)
Ceres	848.4	4.60
Pallas	498.1	4.61
Juno	247.0	4.36
Vesta	468.3	3.63

45 The asteroids shown in the data table are located between the orbits of

?

(1) Venus and Earth
(2) Earth and Mars
(3) Mars and Jupiter
(4) Jupiter and Saturn

46 Compared to the diameter of Earth's Moon, the diameter of Ceres is about

?

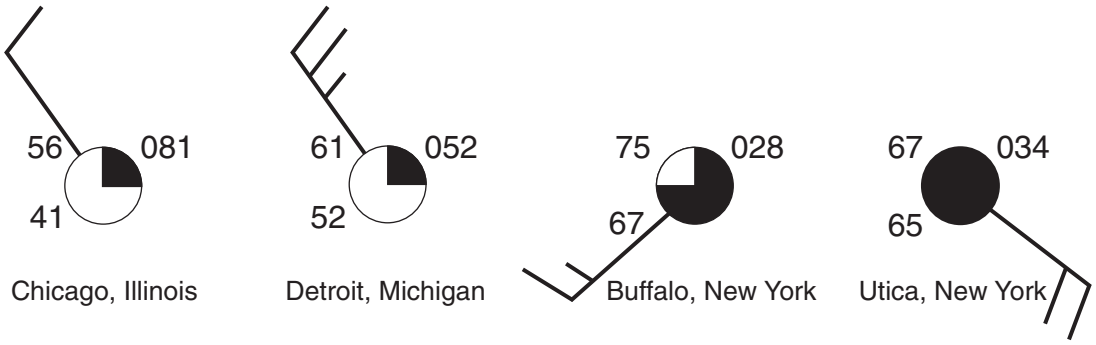
(1) one-fourth of the Moon's diameter
(2) one-half of the Moon's diameter
(3) twice the diameter of the Moon
(4) four times the diameter of the Moon

47 The surface rocks of Vesta contain significant amounts of the mineral pyroxene. If rocks on Vesta are similar to rocks on Earth, which two igneous rocks would most likely be found on the surface of Vesta?

?

(1) basalt and scoria
(2) dunite and granite
(3) peridotite and pumice
(4) rhyolite and pegmatite

Base your answers to questions 48 through 50 on the station models below, which show various weather conditions recorded at the same time on the same day at four different cities.



48 Which wind speed was recorded at Detroit?

?

(1) 15 knots
(2) 25 knots
(3) 35 knots
(4) 45 knots

49 Which city had the lowest relative humidity?

?

(1) Chicago
(2) Detroit
(3) Buffalo
(4) Utica

50 Which weather symbol best represents the type of precipitation that was most likely occurring in Utica?

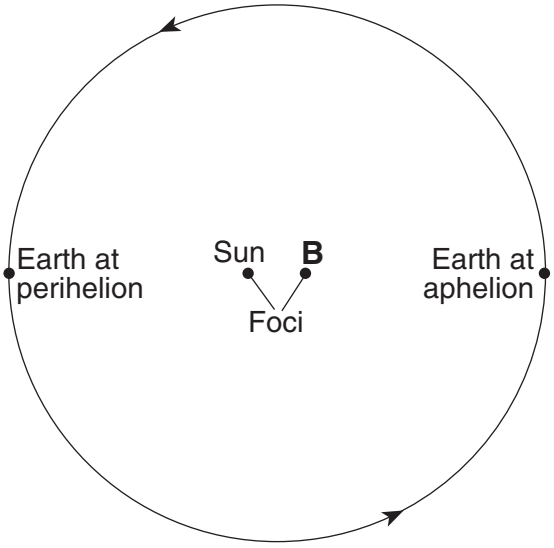
?

Part B–2

Answer all questions in this part.

Directions (51–65): Record your answers in the spaces provided in your answer booklet. Some questions may require the use of the *Earth Science Reference Tables*.

Base your answers to questions 51 through 53 on the diagram below, which represents a model of Earth's orbit. Earth is closest to the Sun at one point in its orbit (perihelion) and farthest from the Sun at another point in its orbit (aphelion). The Sun and point *B* represent the foci of this orbit.



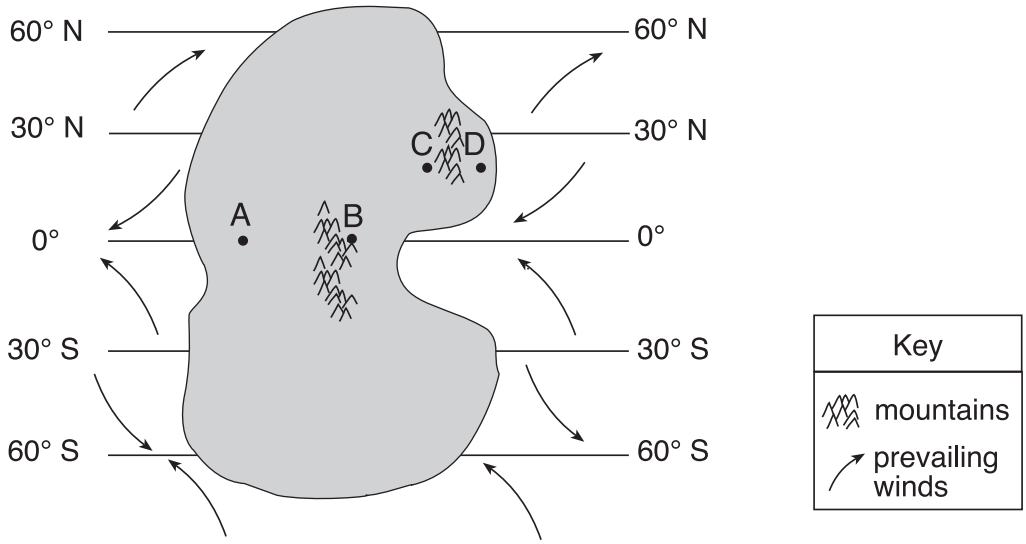
(Not drawn to scale)

51 Explain why Earth's orbit is considered to be elliptical. [1]

52 Describe the change that takes place in the gravitational attraction between Earth and the Sun as Earth moves from perihelion to aphelion and back to perihelion during one year. [1]

53 Describe how the shape of Earth's orbit would differ if the Sun and focus *B* were farther apart. [1]

Base your answers to questions 54 through 56 on the map below, which shows an imaginary continent on a planet that has climate conditions similar to Earth. The continent is surrounded by oceans. Two mountain ranges are shown. Points *A* through *D* represent locations on the continent.



54 Identify *one* labeled latitude on this continent where a high-pressure zone exists and dry air is sinking to the surface. Include *both* the unit and compass direction in your answer. [1]

55 Identify *one* factor that causes a colder climate at location *B* than at location *A*. [1]

56 Explain why location *C* has a warmer and drier climate than location *D*. [1]

Base your answers to questions 57 through 59 on the passage below and on your knowledge of stars and galaxies.

Stars

Stars can be classified according to their properties, such as diameter, mass, luminosity, and temperature. Some stars are so large that the orbits of the planets in our solar system would easily fit inside them.

Stars are grouped together in galaxies covering vast distances. Galaxies contain from 100 billion to over 300 billion stars. Astronomers have discovered billions of galaxies in the universe.

BLANK

ANSWER

57 Arrange the terms *galaxy*, *star*, and *universe* in order from largest to smallest. [1]

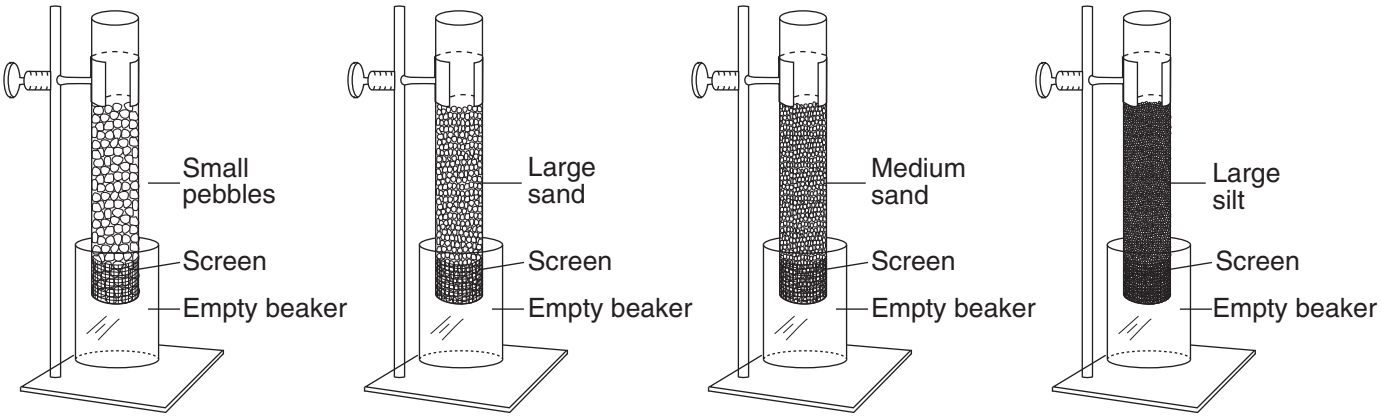
BLANK

ANSWER

58 Complete the table *in your answer booklet* by placing an **X** in the boxes that indicate the temperature and luminosity of each star compared to our Sun. [1]

59 The star *Betelgeuse* is farther from Earth than the star *Aldebaran*. Explain why *Betelgeuse* appears brighter or more luminous than *Aldebaran*. [1]

Base your answers to questions 60 through 62 on the diagram below, which shows laboratory materials used for an investigation of the effects of sediment size on permeability, porosity, and water retention. Four separate columns, labeled *A* through *D*, were filled to the same level with different sediments. The sediments within each column are of uniform size.



(Not drawn to scale)

60 Which column contains particles with a diameter of 0.4 cm? [1]

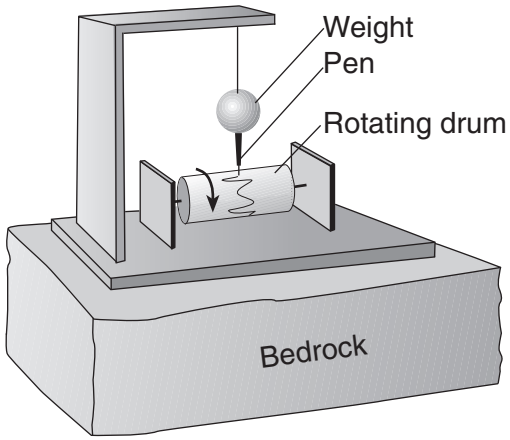
61 Describe the relationship between the sediment size and the permeability that will be observed when water is poured through these sediments. [1]

BLANK

ANSWER

62 An equal amount of water is poured through each column. On the grid *in your answer booklet*, draw a line to show the relative amount of water retained in the sediment after the water flows through each column. [1]

Base your answers to questions 63 through 65 on the diagram below, which shows a seismograph that recorded seismic waves from an earthquake located 4000 kilometers from this seismic station.



63 State *one* possible cause of the earthquake that resulted in the movement of the bedrock detected by this seismograph. [1]

64 Which type of seismic wave was recorded first on the rotating drum? [1]

65 How long does the first *S*-wave take to travel from the earthquake epicenter to this seismograph? [1]

_____

Part C

Answer all questions in this part.

Directions (66–85): Record your answers in the spaces provided in your answer booklet. Some questions may require the use of the *Earth Science Reference Tables*.

Base your answers to questions 66 through 68 on the information below about a solar eclipse that will occur on August 21, 2017. The latitude and longitude coordinates for the movement of the center of the Moon's shadow across Earth's surface are given in the table.

Data Table

Shadow Position Number	Latitude (° N)	Longitude (° W)
1	45.0	130.0
2	44.0	114.5
3	42.0	103.0
4	39.5	94.0
5	36.0	86.0
6	32.5	78.5
7	28.5	71.0

BLANK
ANSWER

66 On the graph *in your answer booklet*, plot with an **X** the path of the center of the Moon's shadow for each position given in the data table. Connect the **X**s with a smooth, curved line. Shadow position number 1 has been plotted on the graph. [1]

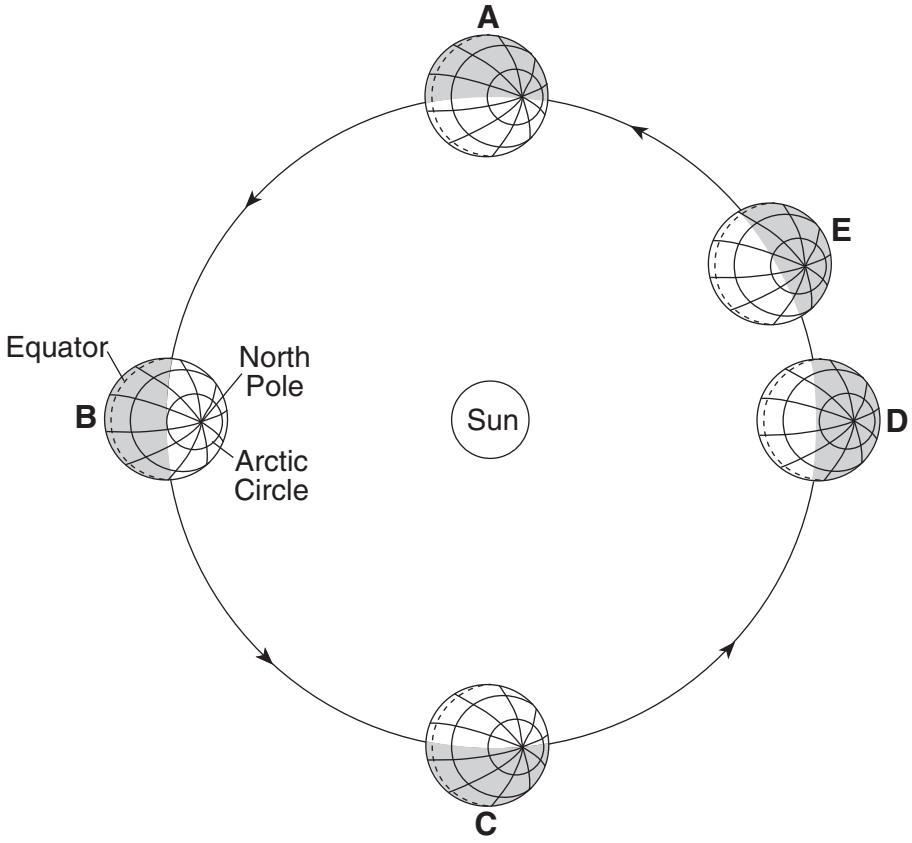
BLANK
ANSWER

67 The path of the Moon's shadow will be approximately 100 kilometers wide. On the graph *in your answer booklet*, shade the area between positions 1 and 2 to show the width of the Moon's shadow on Earth. [1]

BLANK
ANSWER

68 On the diagram *in your answer booklet*, place an **X** on the Moon's orbit to show the Moon's position during a solar eclipse. [1]

Base your answers to questions 69 through 71 on the diagram below, which shows the parts of Earth experiencing daylight and darkness as Earth orbits the Sun. Letters *A*, *B*, *C*, *D*, and *E* are positions in Earth's orbit as viewed from above the Northern Hemisphere.



(Not drawn to scale)

69 Approximately how many days does it take Earth to move from position *A* to position *C* in its orbit? [1]

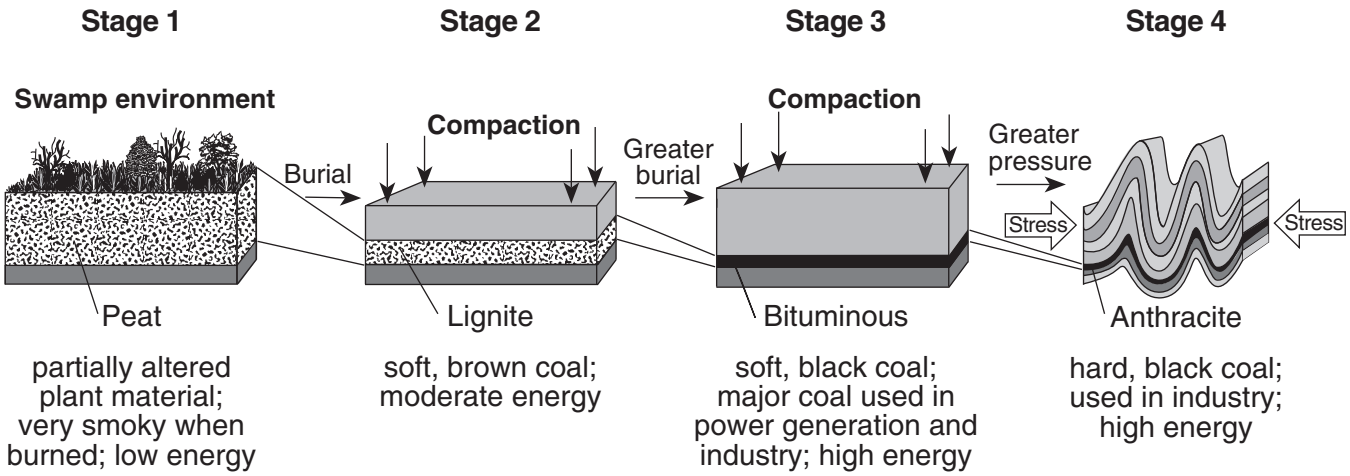
70 Which season is the Northern Hemisphere experiencing when Earth is at position *E*? [1]

BLANK

ANSWER

71 On the grid *in your answer booklet*, place **X**s to show the duration of insolation at the Arctic Circle (66.5° N) as Earth orbits the Sun at positions *A*, *B*, *C*, and *D*. Connect the **X**s with a line. [1]

Base your answers to questions 72 through 74 on the sequence of diagrams below, which shows four stages in coal formation.



72 Which type of rock is forming above the coal material during stages 2 and 3? [1]

73 State the form of coal which normally has the highest density and explain why. [1]

74 Explain why coal deposits are *not* found in bedrock older than Silurian-age bedrock. [1]

Base your answers to questions 75 through 78 on the weather map in your answer booklet, which shows a low-pressure system located over central United States. Points *A*, *B*, and *C* represent locations on Earth's surface. The isobars on the map show air pressures in millibars.

BLANK

ANSWER

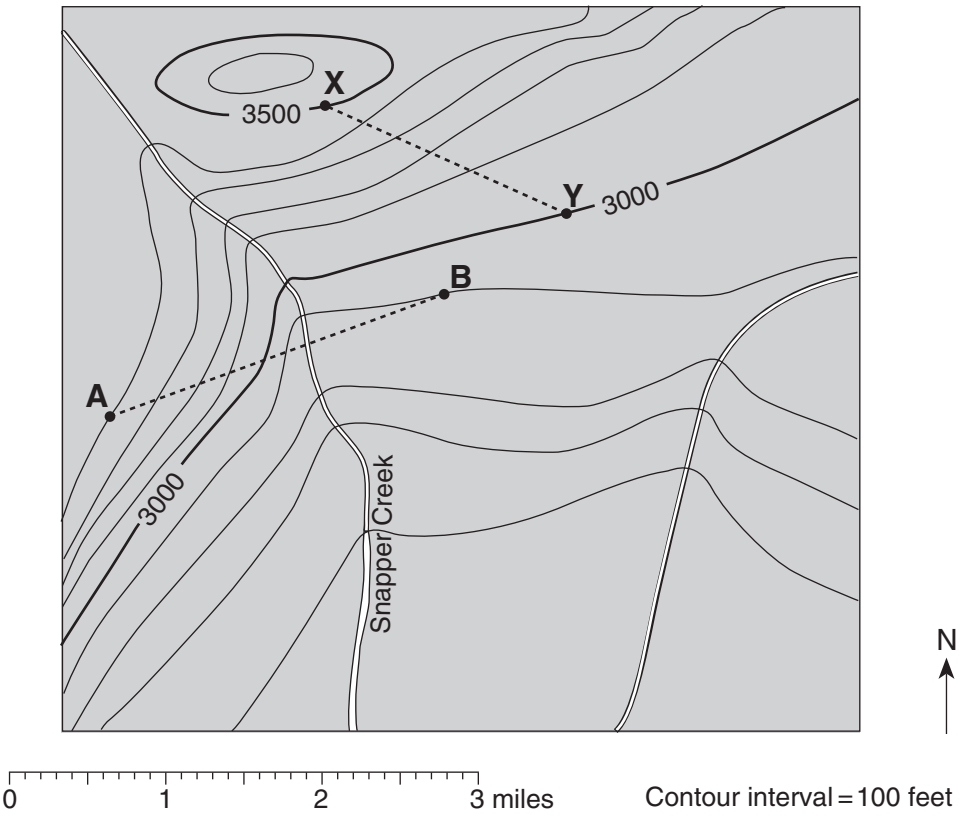
75 On the map *in your answer booklet*, draw an arrow, beginning at the **L**, to show the direction the low-pressure center will most likely move in the next two days. [1]

76 What evidence shown on the map indicates that point *B* is most likely experiencing precipitation? [1]

77 What is the two-letter symbol used on a weather map to indicate the warm, moist air mass that is over point *C*? [1]

78 What evidence shown on the weather map indicates that point *C* is experiencing greater wind speeds than point *A*? [1]

Base your answers to questions 79 through 81 on the topographic map below. Points *A*, *B*, *X*, and *Y* are locations on Earth's surface.



BLANK

ANSWER

79 On the grid *in your answer booklet*, construct a topographic profile of the land surface along line *AB* by plotting an **X** for the elevation of each contour line that crosses line *AB*. Connect the **X**s with a smooth, curved line to complete the profile. [1]

80 Toward which compass direction is Snapper Creek flowing? [1]

81 Calculate the gradient between points *X* and *Y*. Units must be included in your answer. [1]

Base your answers to questions 82 through 85 on the passage below and on the diagram in your answer booklet.

Siccar Point

The diagram shows a unique rock formation exposed at Siccar Point, on the east coast of Scotland. The bedrock at Siccar Point shows an unconformity, which is a surface where two separate sets of rock layers that formed at different times come into contact.

The bottom rock layers are graywacke, which is a form of sandstone, formed approximately 425 million years ago when tectonic plates collided. This plate movement caused the layers of graywacke to tilt into their present vertical orientation and eventually uplifted them above sea level to form mountains.

By about 345 million years ago, these mountains had been eroded to form a plain that submerged beneath the sea. More sediment was deposited on top of the vertical graywacke layers, eventually forming the nearly horizontal layers called the Old Red Sandstone.

BLANK

ANSWER

82 On the diagram *in your answer booklet*, draw a dark, heavy line tracing the unconformity separating the graywacke from the Old Red Sandstone. [1]

83 During which geologic time period did the graywacke bedrock form? [1]

84 Describe the structural evidence shown by the bedrock at Siccar Point that led geologists to conclude that the graywacke was moved by converging tectonic plates. [1]

85 Identify *two* of the processes that produced the unconformity at Siccar Point. [1]

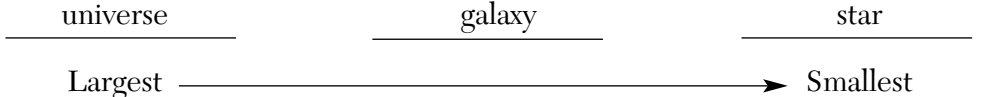
BACK

57 _____ _____ _____

Largest ⟶ Smallest

BACK

57 [1] Allow 1 credit for:



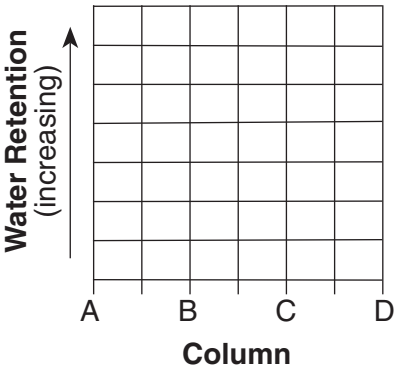
BACK

	Temperature		Luminosity	
Stars	Hotter	Cooler	Brighter	Dimmer
Procyon B				
Barnard's Star				
Rigel				

58 [1] Allow 1 credit if all *six* boxes are correctly marked as shown.

BACK

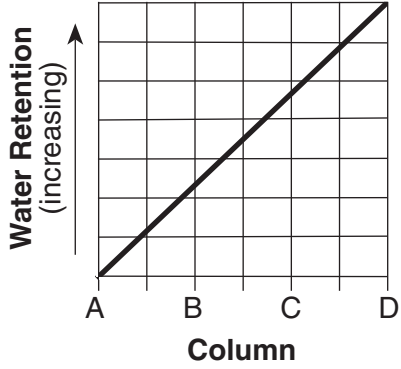
	Temperature		Luminosity	
Stars	Hotter	Cooler	Brighter	Dimmer
Procyon B	X			X
Barnard's Star		X		X
Rigel	X		X	


Water Retention
(increasing)
A
B
C
D
Column

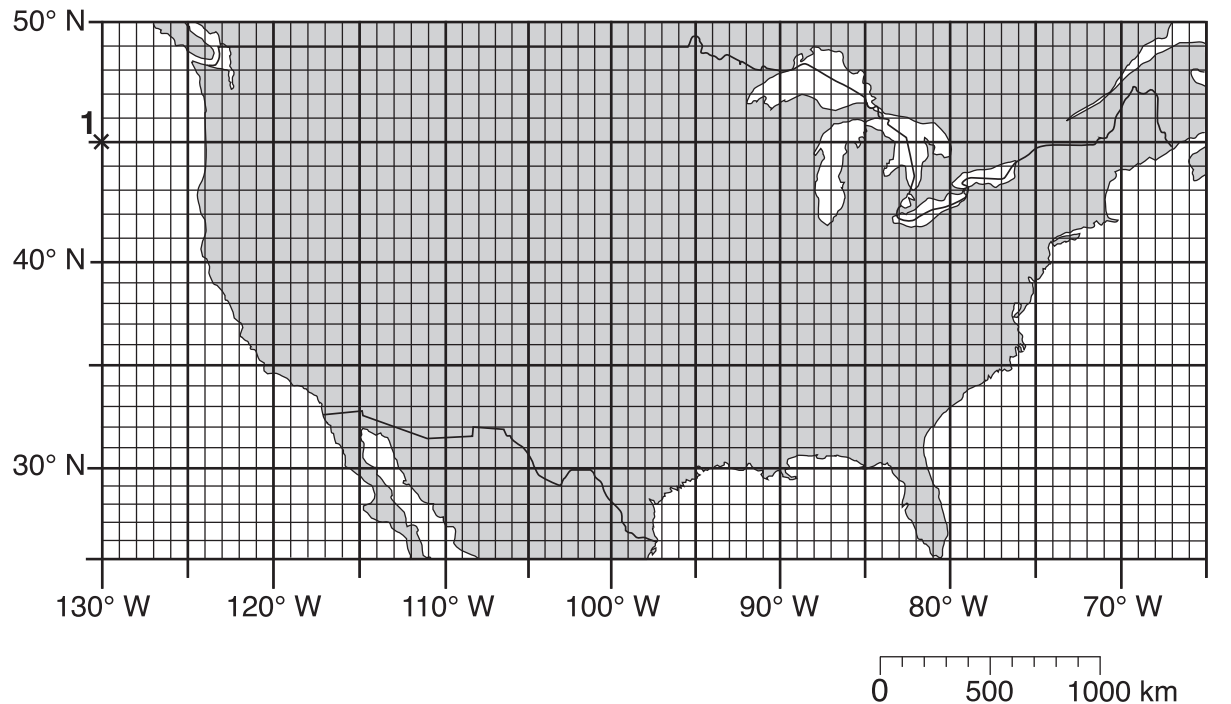
BACK

62 [1] Allow 1 credit for a line that shows water retention increasing from column *A* to column *D*.

Example of a 1-credit response:



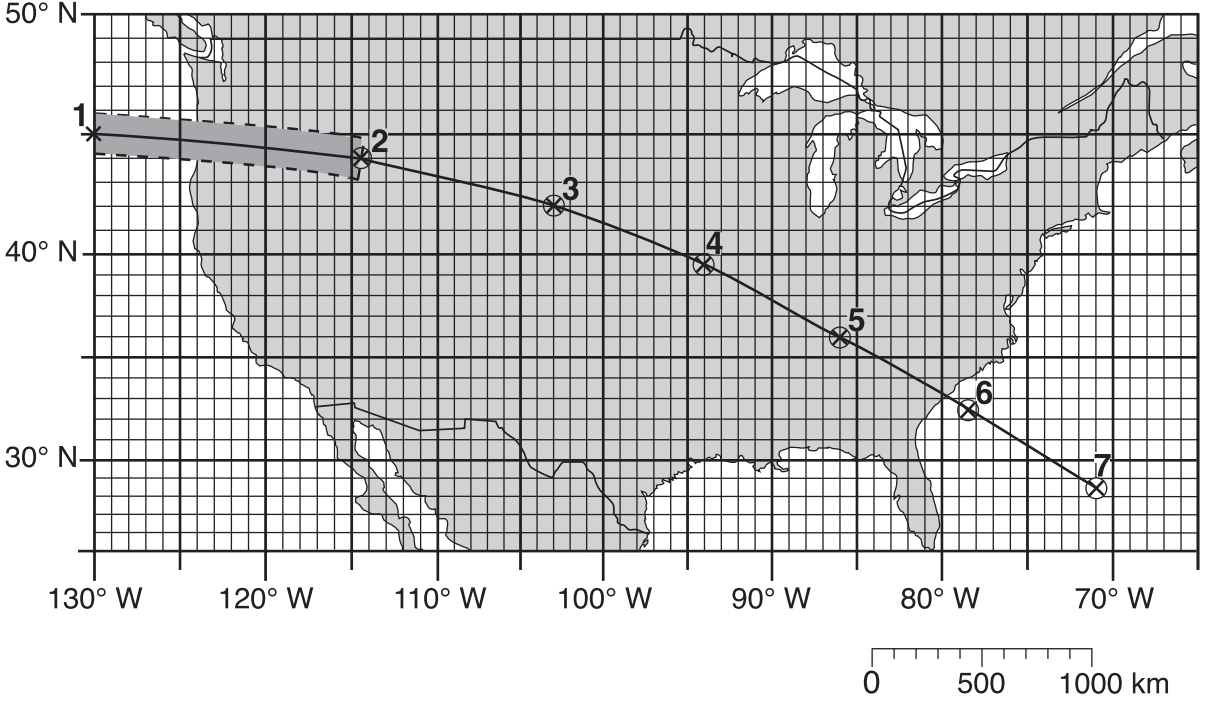
BACK

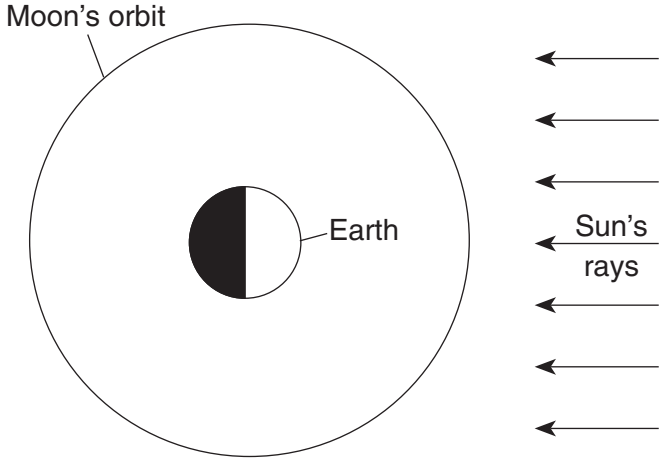


66 [1] Allow 1 credit if the centers of five or six student-plotted **X**s are correctly plotted within the circles shown and connected with a line that passes through the circles.

67 [1] Allow 1 credit for a shadow band between position 1 and the student-located position 2 that falls within the designated shaded width shown below.

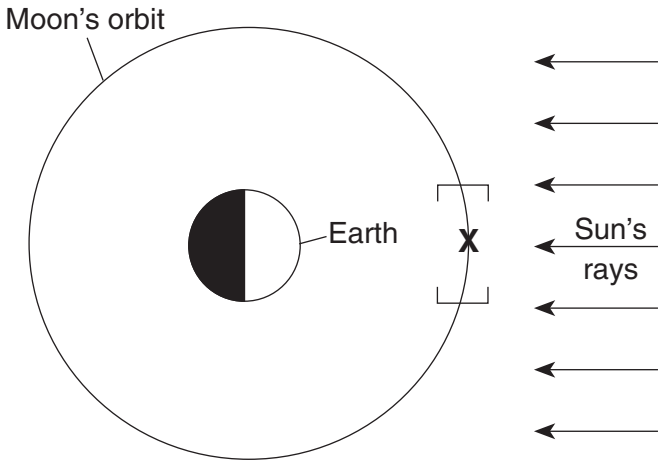
Example of a 2-credit response for questions 66 and 67:



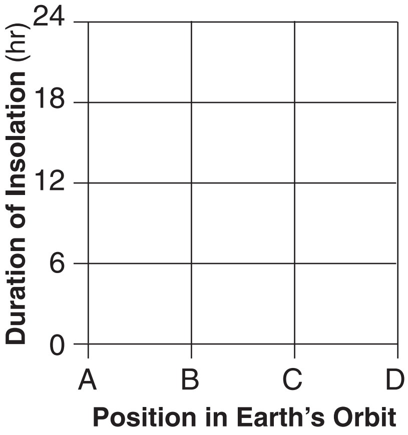

Moon's orbit
Earth
Sun's
rays
(Not drawn to scale)

68 [1] Allow 1 credit if the center of the student's **X** is within the bracketed area shown on the Moon's orbit.

Example of a 1-credit response:

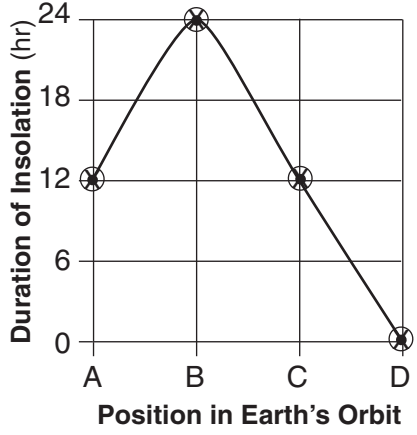


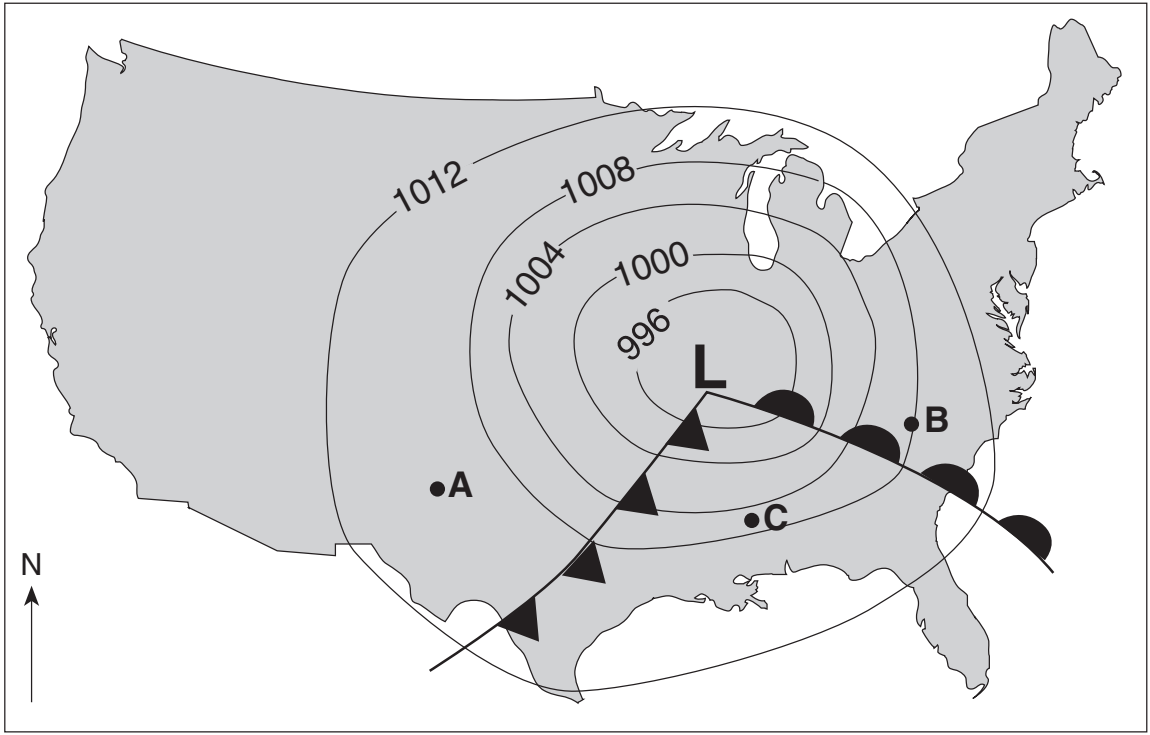
BACK


Duration of Insolation (hr)
24
18
12
6
0
A
B
C
D
Position in Earth's Orbit

71 [1] Allow 1 credit if all four **X**s are plotted within the circles shown and are connected with a line that passes through the circles.

Example of a 1-credit response:

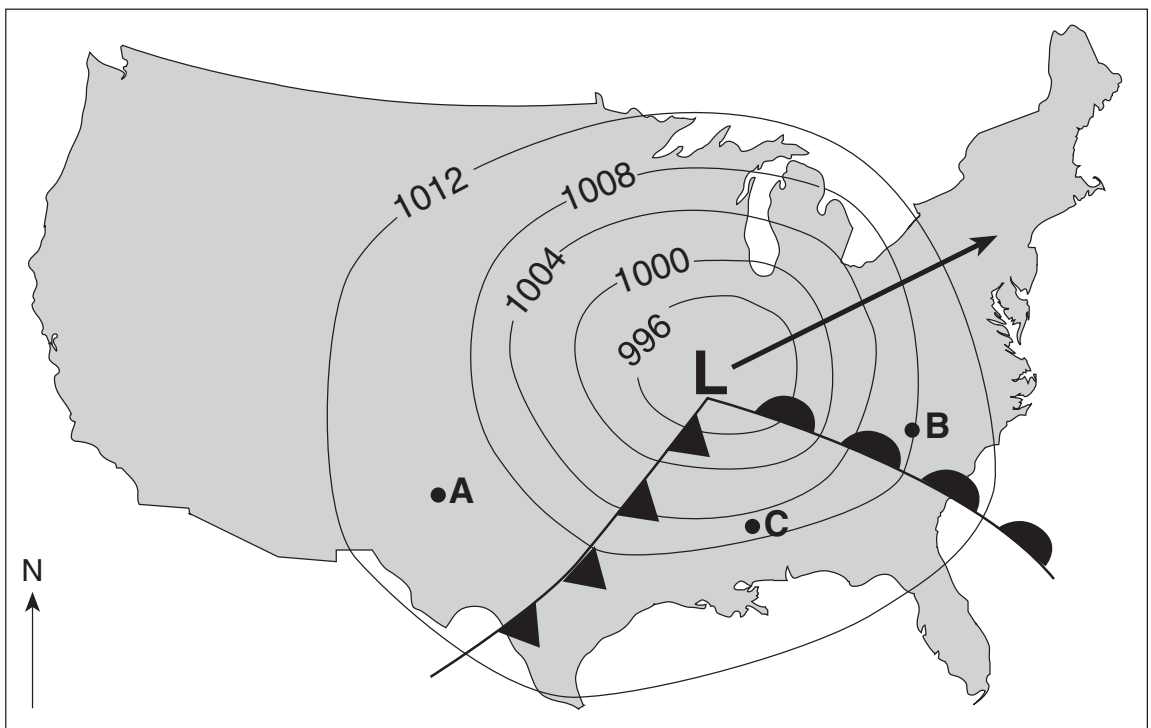


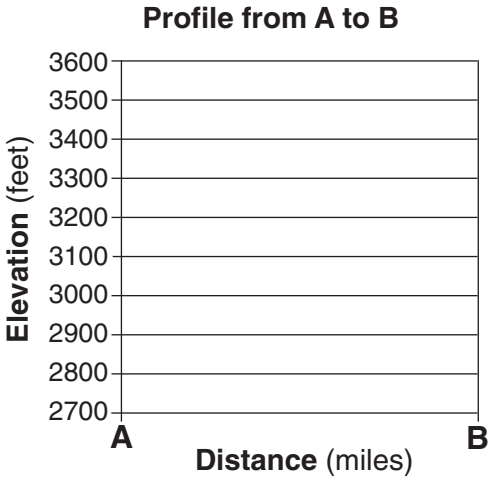

1012
1008
1004
1000
996
L
A
B
C
N

BACK

75 [1] Allow 1 credit for an arrow beginning at the **L** and pointing in any direction from due east to north northeast.

Example of a 1-credit response:

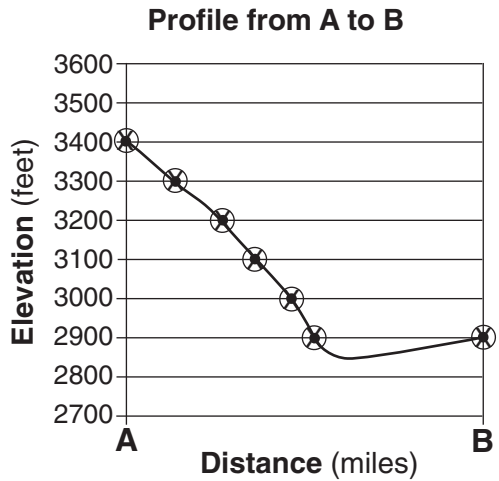



Profile from A to B
3600
3500
3400
3300
3200
3100
3000
2900
2800
2700
Elevation (feet)
A
B
Distance (miles)

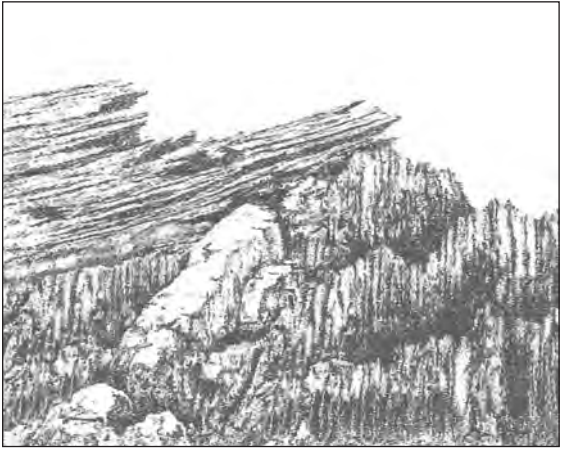
BACK

79 [1] Allow 1 credit if the centers of all seven **X**s are plotted within the circles shown below and are connected with a line that passes through the circles. The line must extend below the 2900-foot line, and above the 2800-foot line.

Example of a 1-credit response:



BACK



BACK

82 [1] Allow 1 credit for correctly drawing the line of unconformity as shown below.

Example of a 1-credit response: