REGENTS REVIEW PACKETS

Name _____   Partner _____

Partner _____   Partner _____

Packet Number: _____   Score _____
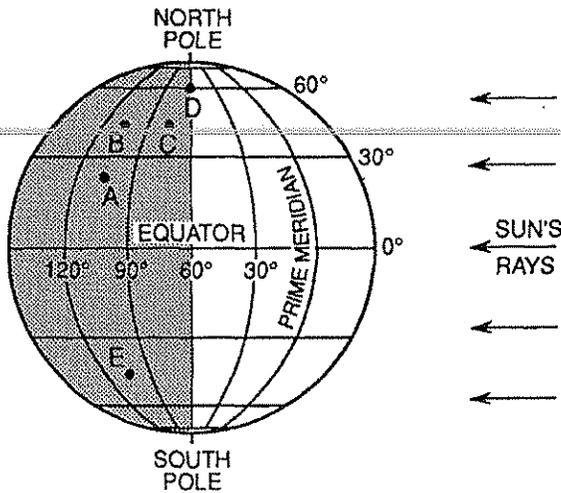
Material Covered: _Density, LAT/LONG, Isolines_

1) _____	23) _____	45) _____
2) _____	24) _____	46) _____
3) _____	25) _____	47) _____
4) _____	26) _____	48) _____
5) _____	27) _____	49) _____
6) _____	28) _____	50) _____
7) _____	29) _____	51) _____
8) _____	30) _____	52) _____
9) _____	31) _____	53) _____
10) _____	32) _____	54) _____
11) _____	33) _____	55) _____
12) _____	34) _____	56) _____
13) _____	35) _____	57) _____
14) _____	36) _____	58) _____
15) _____	37) _____	59) _____
16) _____	38) _____	60) _____
17) _____	39) _____	61) _____
18) _____	40) _____	62) _____
19) _____	41) _____	63) _____
20) _____	42) _____	64) _____
21) _____	43) _____	65) _____
22) _____	44) _____	66) _____

67) _____

68) _____
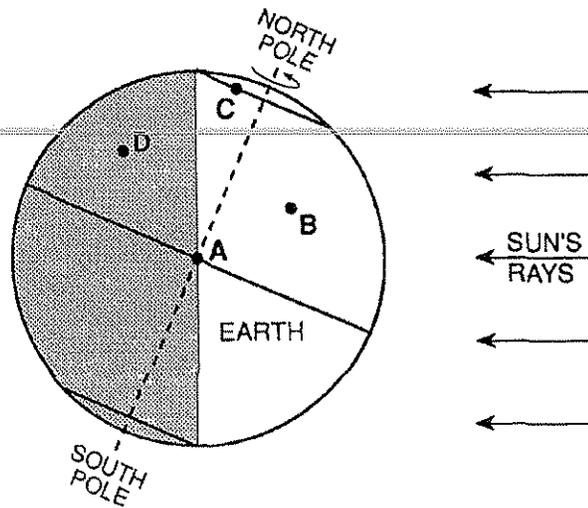
69) _____

70) _____

71) _____

72) _____

73) _____

74) _____

75) _____

76) _____

77) _____

78) _____

79) _____

80) _____

81) _____

82) _____

83) _____

84) _____

85) _____

86) _____

87) _____

88) _____

89) _____

90) _____

91) _____

92) _____

93) _____

94) _____

95) _____

96) _____

97) _____

98) _____

99) _____

100) _____

101) _____

102) _____

103) _____

104) _____

105) _____

106) _____

107) _____

108) _____

109) _____

110) _____

111) _____

112) _____

113) _____

114) _____

115) _____

116) _____

117) _____

118) _____

119) _____

120) _____

121) _____

122) _____

123) _____

124) _____

125) _____

126) _____

127) _____

128) _____

129) _____

130) _____

131) _____

132) _____

Base your answers to questions 1 through 5 on the *Earth Science Reference Tables* and the diagram of the Earth below. Some of the latitude and longitude lines have been labeled. Points *A* through *E* represent locations on the Earth's surface.


Base your answers to questions 7 through 10 on the diagram below. The diagram 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.

1. What are the approximate latitude and longitude of location *A*?
   (1) 105° N, 25° W
   (2) 25° N, 105° W
   (3) 25° N, 105° E
   (4) 105° S, 25° E

2. What do locations *A*, *B*, and *E* have in common?
   (1) They are in the same season.
   (2) They have the same local time.
   (3) They have the same prevailing wind direction.
   (4) They are at the same latitude.

3. The latitude and longitude of which location are closest to those of New York State?
   (1) *A*
   (2) *B*
   (3) *C*
   (4) *D*

4. What is the approximate time at location *D*?
   (1) 6 a.m.
   (2) noon
   (3) 6 p.m.
   (4) midnight

5. As a traveler goes from location *A* to location *B*, the altitude of Polaris will
   (1) decrease
   (2) increase
   (3) remain the same

6. The occurrence of earthquakes along a fault in New York State is an example of a
   (1) cyclic change that can be predicted
   (2) cyclic change that cannot be predicted
   (3) noncyclic change that is easy to predict
   (4) noncyclic change that is difficult to predict

7. What is the latitude of point *A*?
   (1) 90° N
   (2) 23 1/2° N
   (3) 15° N
   (4) 0°

8. Which month is represented by the diagram?
   (1) March
   (2) June
   (3) September
   (4) December

9. The time at point *A* is closest to
   (1) 6 a.m.
   (2) 9 a.m.
   (3) 12 noon
   (4) 6 p.m.

10. During the day represented in the diagram, how would the number of daylight hours for point *A* compare to the number of daylight hours for point *B*?
    (1) Point *A* has fewer daylight hours than point *B*.
    (2) Point *A* has more daylight hours than point *B*.
    (3) Point *A* has the same number of daylight hours as point *B*.

11. If a wooden block were cut into eight identical pieces, the density of each piece compared to the density of the original block would be
   (1) less
    (2) greater
    (3) the same

Base your answers to questions **12** through **15** on the *Earth Science Reference Tables* and the topographic map below. The map represents Keuka Lake, one of the Finger Lakes in New York State. Branchport, Hammondsport, and Penn Yan are towns near the lake.

Topographic Map

Scale (miles) N
0   5
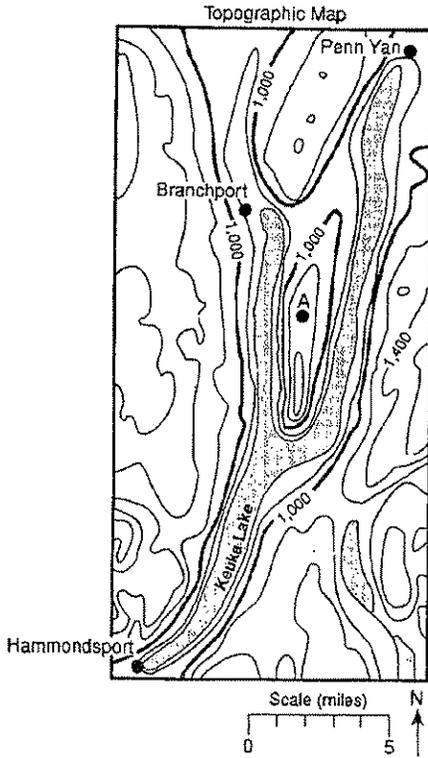
12. Which statement provides the best evidence that Keuka Lake formed as a result of continental glaciation?
    (1) The lake has a forked shape.
    (2) Residual soils are common around the lake.
    (3) The lake fills a U-shaped valley.
    (4) The surface of the lake is below sea level.

13. In which landscape region of New York State are the Finger Lakes located?
    (1) the Catskills
    (2) Allegheny Plateau
    (3) Erie-Ontario Lowlands
    (4) Hudson-Mohawk Lowlands

14. According to the map, about how many miles long is Keuka Lake?
    (1) 15   (3) 24
    (2) 19   (4) 29

15. If the lake level were to rise to 1,000 feet above sea level, the area at *A* would
    (1) become an island
    (2) be under water
    (3) remain attached to the mainland to the north
    (4) become attached to the mainland to the south

Base your answers to questions **16** through **19** on the *Earth Science Reference Tables* and the diagrams below. Diagram I represents a stream's profile before an earthquake. Diagram II represents the same stream's profile after an earthquake elevated a portion of the land and produced a waterfall.

DIAGRAM I
STREAM PROFILE BEFORE EARTHQUAKE

DIAGRAM II
STREAM PROFILE AFTER EARTHQUAKE
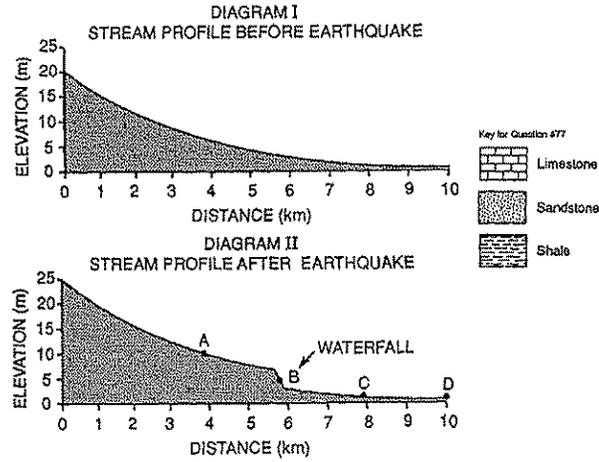
16. What was the approximate average gradient of the stream before the earthquake?
   (1) 0.5 m/km   (3) 10 m/km
    (2) 2 m/km   (4) 20 m/km

17. If no more earthquakes occur during the next several hundred years, the waterfall will most likely
    (1) move closer to position *A* because of erosion
    (2) remain at position *B* because of dynamic equilibrium
    (3) move closer to position *C* because of deposition
    (4) move closer to position *C* because of crustal movement

18. After the earthquake, the maximum stream velocity was 250 centimeters per second. The largest particles that could be transported by this stream are
    (1) sand   (3) cobbles
    (2) pebbles   (4) boulders

19. Compared to the stream's average gradient before the earthquake, the stream's average gradient after the earthquake is
    (1) less   (3) the same
    (2) greater

20. At 7:00 a.m., the air pressure was 1,012 millibars. By 11:00 a.m., the air pressure had dropped to 1,004 millibars. What was the rate of change in the air pressure?
   (1) 16 mb/hr   (3) 8 mb/hr
    (2) 2 mb/hr   (4) 4 mb/hr

21. 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.
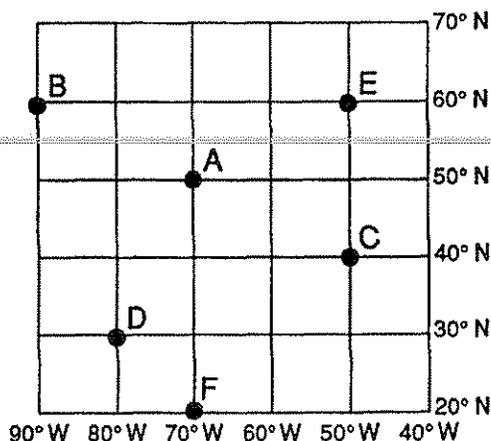
How are latitude and longitude lines drawn on a globe of the Earth?
(1) Latitude lines are parallel and longitude lines meet at the poles.
(2) Latitude lines are parallel and longitude lines meet at the Equator.
(3) Longitude lines are parallel and latitude lines meet at the poles.
(4) Longitude lines are parallel and latitude lines meet at the Equator.

22. The graph below shows the relative amount of air pollution over a city for a period of several years.

Air Pollution in a City
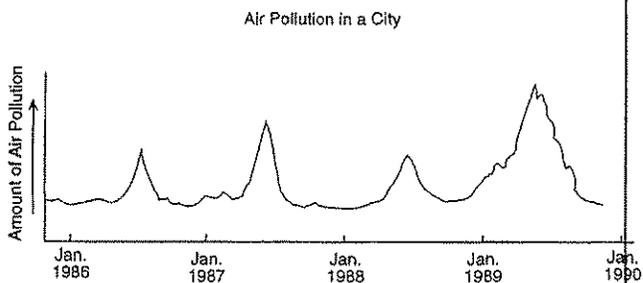
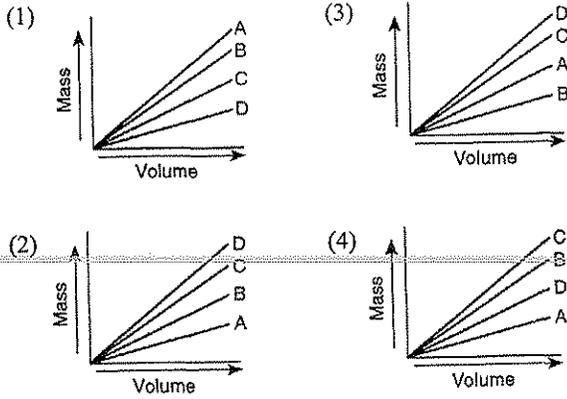Which statement about air pollution over this city is best supported by the graph?
(1) It is decreasing at a constant rate.
(2) It is increasing at a constant rate.
(3) It is a cyclic event.
(4) It has no pattern.

Base your answers to questions **23** through **27** on the *Earth Science Reference Tables* and the diagram below. The diagram represents latitude and longitude lines on Earth. Points *A* through *E* represent locations on Earth. Arrows represent direction of rotation.
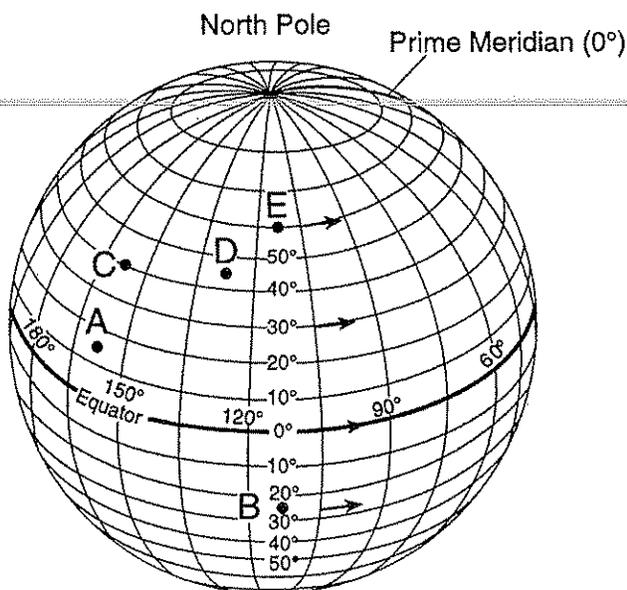
23. What is the approximate latitude and longitude of location *A*?
(1) 160° N, 15° E   (3) 15° N, 160° E
(2) 160° S, 15° W   (4) 15° N, 160° W

24. When the local time at location *C* is 3 p.m., the local time at location *D* is
(1) 1 p.m.   (3) 3 p.m.
(2) 5 p.m.   (4) 3 a.m.

25. Locations *C* and *D* both have the same
(1) prevailing wind direction   (3) altitude of Polaris
(2) latitude   (4) longitude

26. Which location has the longest duration of insolation on December 21?
(1) *A*   (3) *C*
(2) *B*   (4) *E*

27. At which location will the Sun reach the highest angle above the horizon at solar noon?
(1) *A*   (3) *C*
(2) *E*   (4) *D*

Base your answers to questions **28** through **32** on the *Earth Science Reference Tables* and the contour map below. Points *A* through *F* represent locations on the map.

NORTH

0   1   2
SCALE (km)

Contour Interval = 10 meters

28. What is the most likely elevation of the surface of Sunfish Lake?

(1) 151 m   (3) 55 m
(2) 140 m   (4) 28 m

29. Which statement about hill *C* is best supported by the map?

(1) Hill *C* is located approximately 2 km west of Cedar River.
(2) The steepest slope of hill *C* is on the western side.
(3) Hill *C* has been shaped by glaciers.
(4) The highest possible elevation of hill *C* is 179 m.

30. If no elevation values were given, which general rule could be used to establish that Cedar River flows into Sunfish Lake?

(1) Rivers shown on maps generally flow southward.
(2) Rivers always flow toward large bodies of water.
(3) Contour lines bend upstream when crossing a river.
(4) A large body of water is generally the source of water for a river.

31. Which location has the same elevation as location *D*?

(1) *A*   (3) *C*
(2) *E*   (4) *F*

32. Which diagram best represents the topographic profile from location *A* to location *F*?

Base your answers to questions **33** through **37** on the *Earth Science Reference Tables* and the diagrams below. The diagrams represent four different mineral samples with different shapes and masses. Diagrams are not drawn to scale.

Mass = 12.0 g   Mass = 16.0 g   Mass = 20.0 g   Mass = 24.0 g
Volume = 4.0 cm³   Volume = 4.0 cm³   Volume = 4.0 cm³   Volume = 4.0 cm³

33. Which instrument was most likely used to find the volume of each sample?

(1) graduated cylinder   (3) thermometer
(2) balance   (4) psychrometer

34. A second sample of mineral *A* has a mass of 48 grams. What is the volume of this sample?

(1) 24.0 cm³   (3) 12.0 cm³
(2) 16.0 cm³   (4) 4.0 cm³

35. A student finds the mass of sample *B* to be 17.5 grams. What is the student's approximate percent deviation (percentage of error)?

(1) 1.5%   (3) 8.8%
(2) 6.7%   (4) 9.4%

36. Which sample would most likely be the slowest to settle in a quiet body of water?

(1) *A*   (3) *C*
(2) *B*   (4) *D*

37. Which graph best represents the density of each sample?

(1)

(3)

(2)

(4)

38. Which statement about a rock sample is most likely an inference?

(1) The rock has flat sides and sharp corners.
(2) The rock is made of small, dark-colored crystals.
(3) The rock has thin, distinct layers.
(4) The rock has changed color due to weathering.

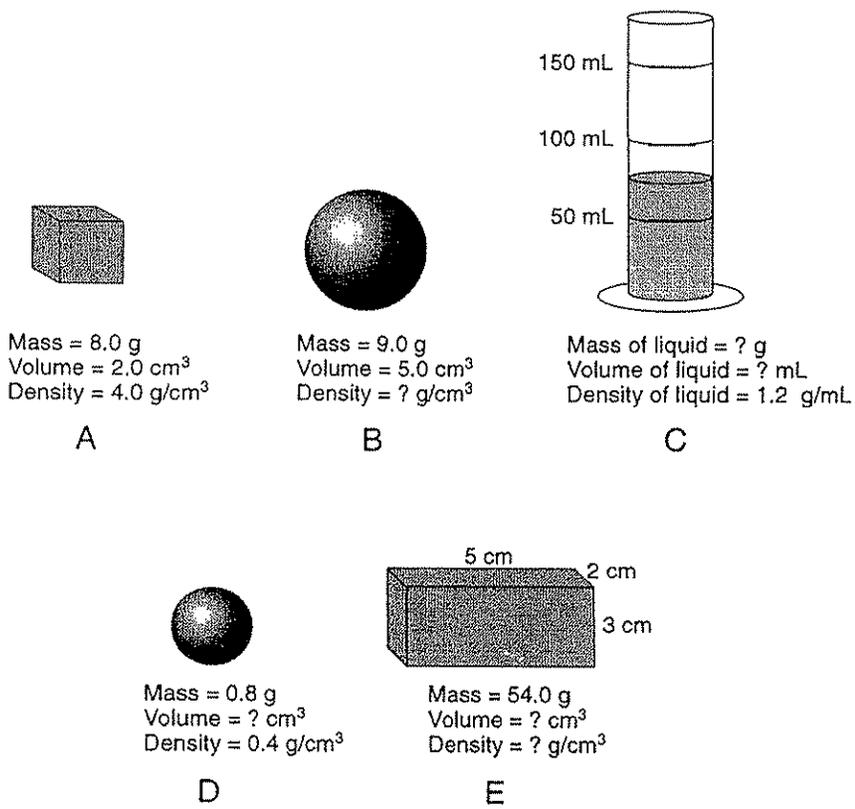39. The topographic map below shows the island of Hawaii. Elevations are measured in feet.
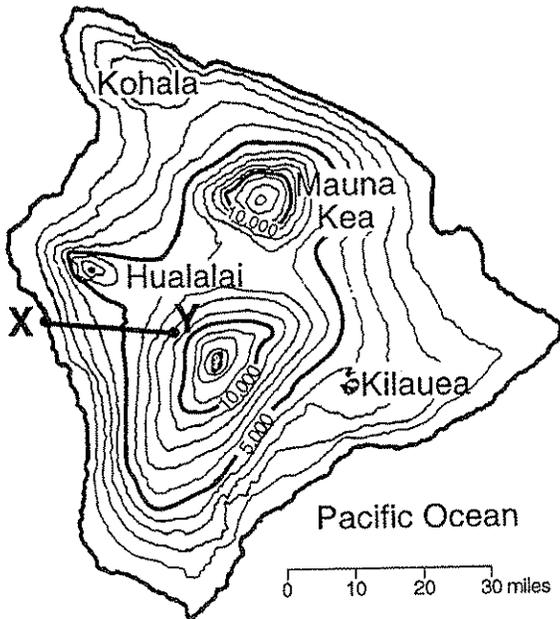
What is the approximate average gradient along line XY?

(1) 200 ft/mi
(2) 400 ft/mi
(3) 800 ft/mi
(4) 1,000 ft/mi

40. An observer recorded the barometric pressure while traveling up the west side of a mountain and down the other side. Which graph best represents the probable air pressure changes that were observed?

(1)

(3)

(2)

(4)
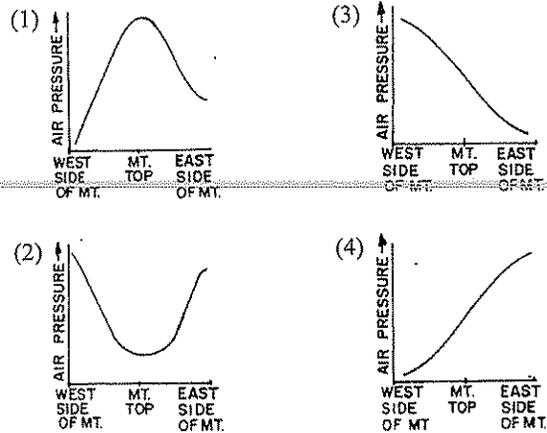
41. Base your answer to the following question on the *Earth Science Reference Tables*, the diagrams below, and your knowledge of Earth science. The diagrams represent five substances, *A* through *E*, at the same temperature. Some mass, volume, and density values are indicated for each substance. Substance *C* is a liquid in a graduated cylinder. [Note that 1 cubic centimeter = 1 milliliter. Objects are not drawn to scale.]

150 mL

100 mL

50 mL

Mass = 8.0 g
Volume = 2.0 cm^3
Density = 4.0 g/cm^3

A

Mass = 9.0 g
Volume = 5.0 cm^3
Density = ? g/cm^3

B

Mass of liquid = ? g
Volume of liquid = ? mL
Density of liquid = 1.2 g/mL

C

Mass = 0.8 g
Volume = ? cm^3
Density = 0.4 g/cm^3

D

5 cm
2 cm
3 cm

Mass = 54.0 g
Volume = ? cm^3
Density = ? g/cm^3

E

Water (*W*) was added to the graduated cylinder containing liquid *C*. Objects *A* and *D* were then dropped into the cylinder. Which diagram most accurately shows the resulting arrangement of these substances?

(1)

C

W

A D

(2)

C

A

W

D

(3)

A

W

D

C

(4)

D

W

C

A
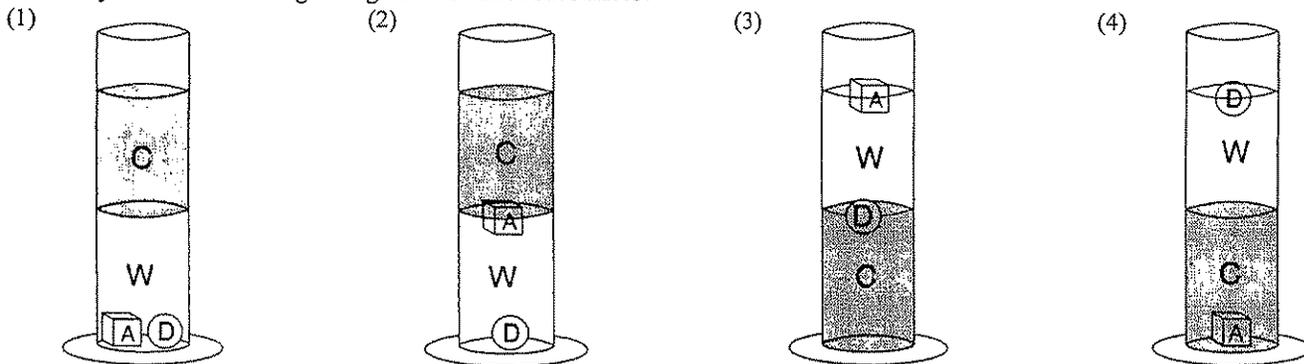
42. A student calculates the densities of five different pieces of aluminum, each having a different volume. Which graph best represents this relationship?

(1)

(3)

(2)

(4)
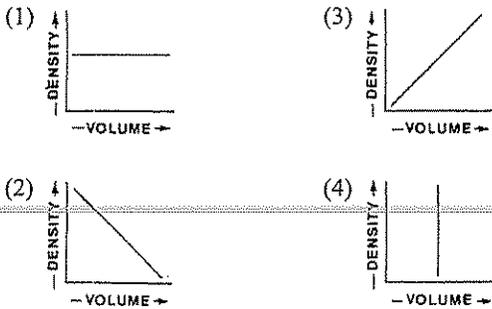
43. A student examined a patch of mud and recorded several statements about footprints in the mud. Which statement is most likely an inference?
(1) There are five footprints in the mud.
(2) The depth of the deepest footprint is 3 centimeters.
(3) The footprints were made by a dog.
(4) The footprints are oriented in an east-west direction.

44. At which latitude could the Sun be viewed most nearly overhead at noon during the month of June?
(1) 23½° N   (3) 66½° N
(2) 45° N   (4) 90° N

Base your answers to questions **45** through **49** on the *Earth Science Reference Tables* and the topographic map below. The topographic map represents elevation contours measured in meters. Four straight lines, *AB, CD, EF,* and *GH,* have been drawn for reference purposes.
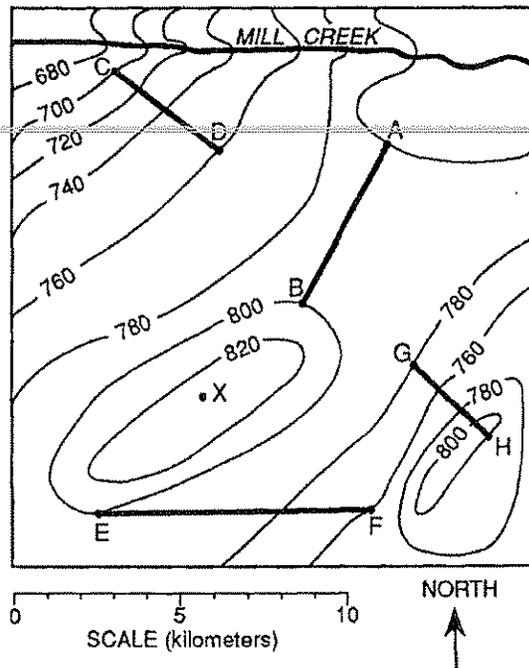
45. What could be the elevation of point *X*?
(1) 819 m   (3) 841 m
(2) 826 m   (4) 850 m

46. Which profile below most likely represents cross section *GH*?

(1)

(3)

(2)

(4)
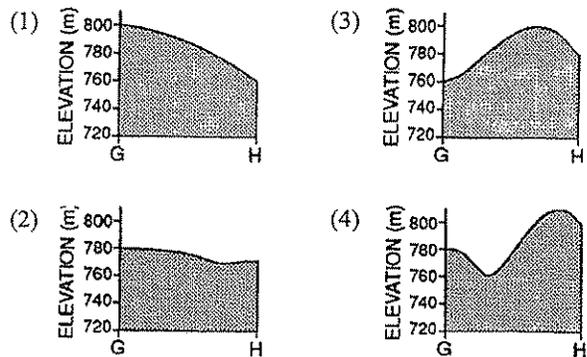
47. What is the general direction of flow of Mill Creek?
(1) east to west   (3) north to south
(2) west to east   (4) south to north

48. Between which two locations is the gradient approximately 15 meters per kilometer?
(1) *A* and *B*   (3) *C* and *D*
(2) *E* and *F*   (4) *G* and *H*

49. If uplifting and leveling forces are in a state of dynamic equilibrium, the average elevation of the area will
    (1) decrease
    (2) increase
    (3) remain the same

Base your answers to questions **50** through **53** on the map below. The map shows houses, individual drilled water wells, and the amount of insecticide, in parts per million (ppm), in each well except the well at house Q. The insecticide was spread on the lawn of one of the houses and has seeped into the ground water.
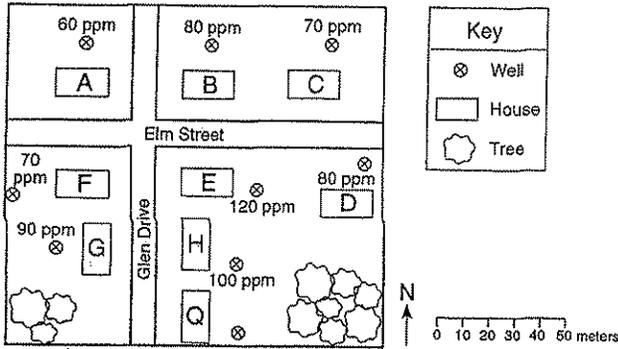

50. The liquid insecticide is most likely to infiltrate the soil when the soil is
    (1) permeable and saturated
    (2) permeable and unsaturated
    (3) impermeable and saturated
    (4) impermeable and unsaturated

51. Which surface is most likely to have the greatest runoff from a heavy rainstorm?
    (1) the pavement of Elm Street
    (2) the level grassy lawn of house B
    (3) the sand-covered yard of newly constructed house G
    (4) the tree-covered area near house Q

52. The amount of insecticide in the well at house Q would most likely be
    (1) 180 ppm
    (2) 120 ppm
    (3) 90 ppm
    (4) 20 ppm

53. Which isoline map best represents the amounts of insecticide in the wells?
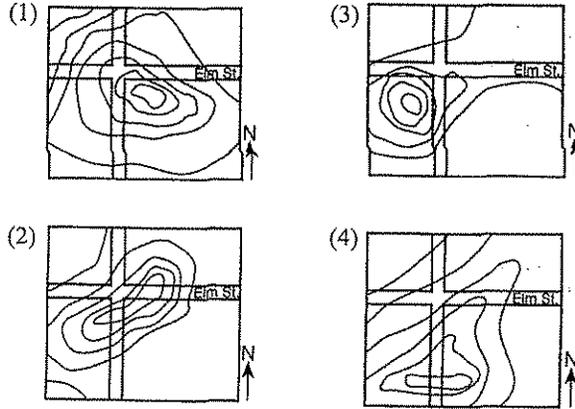
54. A classification system is based on the use of
    (1) the human senses to observe properties of objects
    (2) instruments to observe properties of objects
    (3) observed properties to group objects with similar characteristics
    (4) inferences to make observations

55. The profile below shows four regions of the ocean bottom.
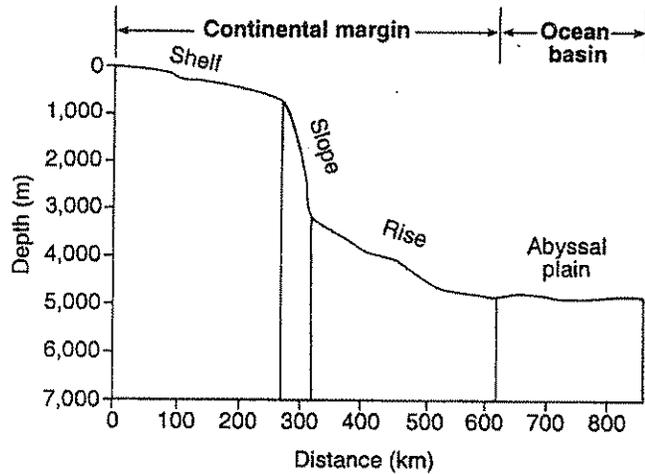
In which list are these regions arranged in order of gradient from least steep to most steep?
    (1) rise → abyssal plain → shelf → slope
    (2) slope → rise → shelf → abyssal plain
    (3) abyssal plain → shelf → rise → slope
    (4) shelf → abyssal plain → rise → slope

56. The diagram at the right represents a cylinder which contains four different liquids, W, X, Y, and Z, each with a different density (D) as indicated. A piece of solid quartz having a density of 2.7 g/cm³ is placed on the surface of liquid W. When the quartz is released, it will pass through

W
D=1.0 g/cm³

X
D=1.8 g/cm³

Y
D=2.3 g/cm³

Z
D=3.0 g/cm³
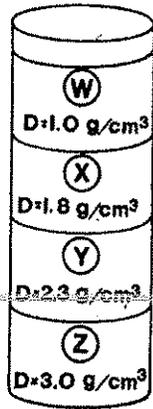
(1) W, but not X, Y, or Z
(2) W and X, but not Y or Z
(3) W, X, and Y, but not Z
(4) W, X, Y, and Z

57. Base your answer to the following question on the *Earth Science Reference Tables*.

At which New York State location is the altitude of Polaris closest to 42°?
(1) Albany
(2) Rochester
(3) Slide Mt.
(4) Mt. Marcy

Base your answers to questions **58** through **62** on the topographic map below. Letters A through F represent locations on the map.
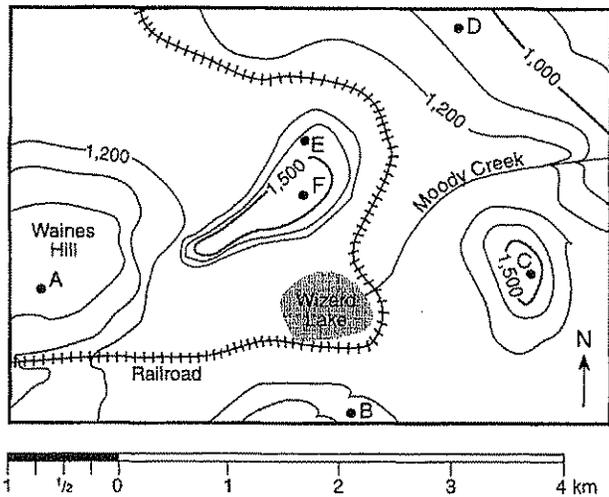
58. What is the contour interval of this map?
(1) 10 m
(2) 50 m
(3) 100 m
(4) 150 m

59. Toward which direction does Moody Creek flow
(1) southwest
(2) northwest
(3) northeast
(4) southeast

60. Which location has the lowest elevation?
(1) A
(2) E
(3) C
(4) D

61. What is the approximate length of the railroad tracks shown on the map?
(1) 15 km
(2) 12 km
(3) 8 km
(4) 4 km

62. Which diagram best represents the profile along a straight line from point D to point C?
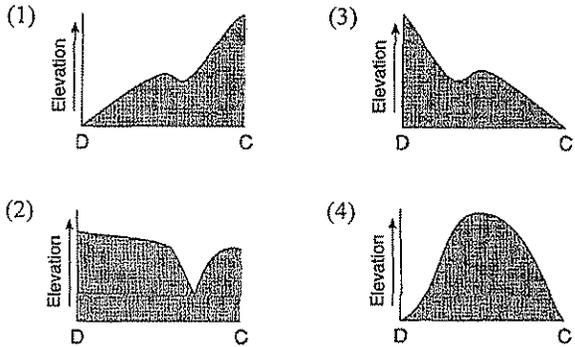
63. According to the data below, what is the exact shape of the Earth?

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

(1) slightly flattened at both the Equator and the Poles
(2) slightly bulging at both the Equator and the Poles
(3) slightly flattened at the Equator and slightly bulging at the Poles
(4) slightly flattened at the Poles and slightly bulging at the Equator

64. Which diagram most accurately shows the cross-sectional shape of the Earth drawn to scale?
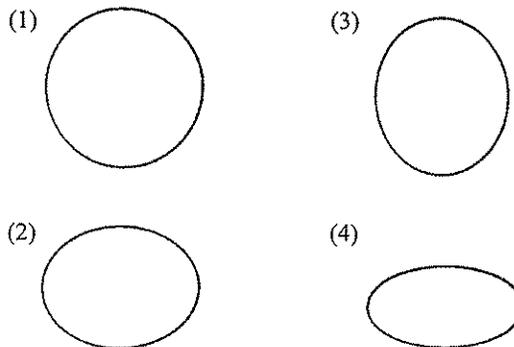
65. Which observation would be most difficult to measure?
   (1) the amount that Mt. Marcy weathers during one year
   (2) the change in volume of Kaaterskill Creek during the 24 hours after a heavy rainstorm
   (3) the daily change in water elevation from high to low tides of the Hudson River at Catskill, New York
   (4) the angle of insolation at noon in Albany, New York, from March 21 to June 21

66. Base your answer to the following question on the *Earth Science Reference Tables*.

   What do the tropopause, stratopause, and mesopause all have in common?
   (1) Each is a point of maximum temperature in its layer of the atmosphere.
   (2) Each is an interface between two layers of the atmosphere.
   (3) Each is a region of increasing pressure within the atmosphere.
   (4) Each is a zone of decreasing water vapor content within the atmosphere.

67. 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?
   (1) The shape of the Earth is not perfectly spherical.
   (2) The lines of longitude are not parallel.
   (3) The north-south distance for every 10° of latitude is a constant value.
   (4) The Earth's equatorial radius and polar radius are equal.

68. Compared to the weight of a person at the North Pole, the weight of the same person at the Equator would be
   (1) slightly less, because the person is farther from the center of Earth
   (2) slightly less, because the person is closer to the center of Earth
   (3) slightly more, because the person is farther from the center of Earth
   (4) slightly more, because the person is closer to the center of Earth

69. Base your answer to the following question on the *Earth Science Reference Tables*.

   The ratio of nitrogen to oxygen, by volume, in the Earth's troposphere is approximately
   (1) 4:1   (3) 1:4
   (2) 2:1   (4) 1:2

70. Base your answer to the following question on the *Earth Science Reference Tables*.

   Point *A* and point *B* are locations 0.24 mile apart on a ski slope in northern New York. Point *A* has an elevation of 1,560 feet and point *B* has an elevation of 1,800 feet. What is the gradient between these points?
   (1) 60 ft/mi   (3) 500 ft/mi
   (2) 240 ft/mi   (4) 1,000 ft/mi

71. The best evidence of the Earth's nearly spherical shape is obtained through
   (1) telescopic observations of other planets
   (2) photographs of the Earth from an orbiting satellite
   (3) observations of the Sun's altitude made during the day
   (4) observations of the Moon made during lunar eclipses

72. Which statement provides the best evidence that the Earth has a nearly spherical shape?
   (1) The Sun has a spherical shape.
   (2) The altitude of Polaris changes in a definite pattern as an observer's latitude changes.
   (3) Star trails photographed over a period of time show a circular path.
   (4) The lengths of noontime shadows change throughout the year.

73. Base your answer to the following question on the *Earth Science Reference Tables*.

   A person measures the length of a piece of wood to be 41 centimeters. If the actual length is 40. centimeters, what is the percent deviation (percent of error) from the actual length?
   (1) 1.0%   (3) 5.0%
   (2) 2.5%   (4) 9.8%

74. Base your answer to the following question on the *Earth Science Reference Tables*.

   An observer incorrectly measured the mass of a rock as 428.7 grams. The actual mass was 450.0 grams. What was the observer's approximate percentage of error?
   (1) 5.0%   (3) 4.3%
   (2) 2.1%   (4) 4.7%

75. Base your answer to the following question on the *Earth Science Reference Tables*.

   An empty 250-milliliter beaker has a mass of 60 grams. When 100 milliliters of oil is added to the beaker, the total mass is 140 grams. The density of the oil is approximately
   (1) 1.7 g/ml   (3) 0.8 g/ml
   (2) 1.4 g/ml   (4) 0.6 g/ml

76. the *Earth Science Reference Tables*.

What is the approximate temperature of the mesosphere at an elevation of 68 kilometers above sea level?

(1) 0°C   (3) -55°C

(2) 42°C   (4) -90°C

77. Base your answer to the following question on the *Earth Science Reference Tables*.

Approximately what are the coordinates of the Hawaii Hot Spot?

(1) 50 N, 120 W   (3) 25 N, 158 W

(2) 25 N, 158 E   (4) 25 S, 158 E

78. The true shape of the Earth is best described as a

(1) perfect sphere   (3) slightly oblate sphere

(2) perfect ellipse   (4) highly eccentric ellipse

79. As a volume of air expands due to heating, the density of this air will

(1) decrease   (3) remain the same

(2) increase

80. Which graph best illustrates the relative density of Earth's atmosphere, lithosphere, and hydrosphere?

(1)

(2)

(3)

(4)
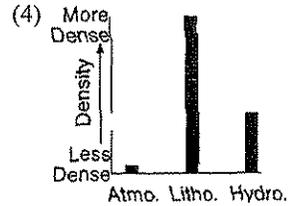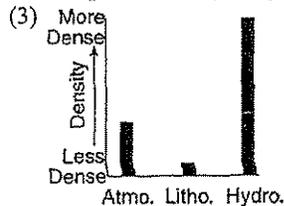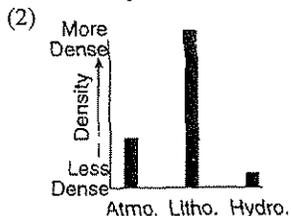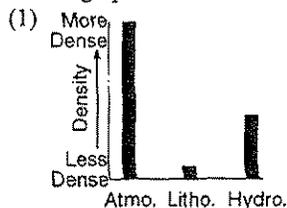
Base your answers to questions **81** through **85** on the *Earth Science Reference Tables* and the diagram below. The diagram shows the latitude zones of the Earth.

Latitude	Percent of Earth's area	Latitude zones:
90° 75°	1.70 %	North Polar
60°	5.00 %	Arctic
55°	2.34 %	Subarctic
	12.28 %	North Middle-Latitude
35° 25°	7.55 %	North Subtropical
	12.45 %	NorthTropical
10°		
	17.36 %	Equatorial
10°		
	12.45 %	South Tropical
25°	7.55 %	South Subtropical
35°		
	12.28 %	South Middle-Latitude
55°	2.34 %	Subantarctic
60°	5.00 %	Antarctic
75° 90°	1.70 %	South Polar
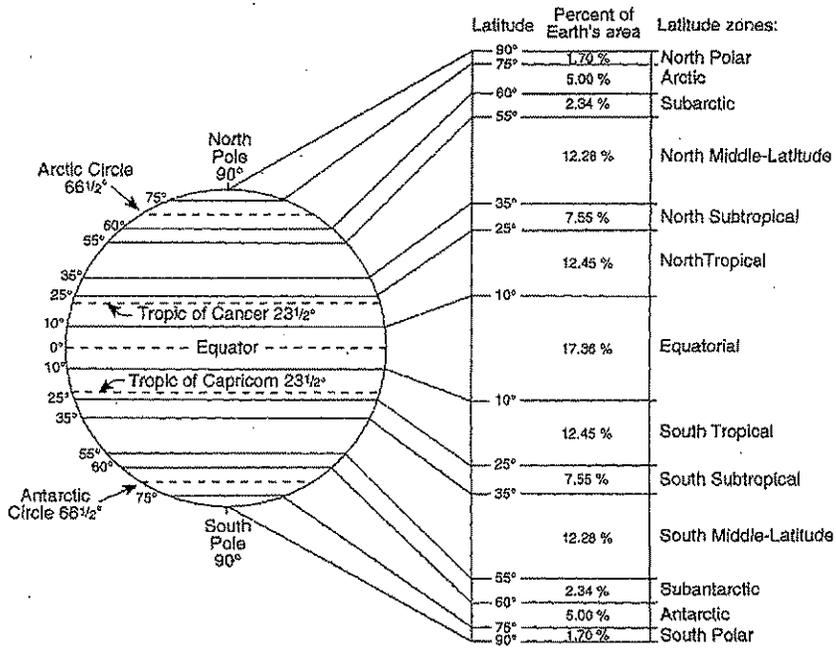
81. What is the total number of degrees of latitude covered by the Equatorial zone?
    (1) 0°
    (2) 10°
    (3) 17°
    (4) 20°

82. In which latitude zone is New York State located?
    (1) North Middle-Latitude
    (2) North Subtropical
    (3) North Tropical
    (4) North Polar

83. Which graph best represents the relationship between average yearly temperatures and latitude?

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

84. Which zone receives the greatest intensity of sunlight on June 21?
    (1) North Tropical
    (2) Equatorial
    (3) South Tropical
    (4) North Polar

85. The locations of the Tropic of Cancer and the Tropic of Capricorn are set at 23½° from the Equator because the
    (1) Earth is slightly bulged at the equatorial region
    (2) direct rays of the Sun move between these latitudes
    (3) Arctic Circle and the Antarctic Circle are 23½° from the poles
    (4) center of the Earth's gravitational field is located 23½° from the Equator

Base your answers to questions **86** through **89** on the *Earth Science Reference Tables* and the contour map below. Points *A*, *B*, *C*, *D*, *X*, and *Y* are locations on the map. Elevations are expressed in feet. the maximum elevation of Basket Dome is indicated at point *X*.
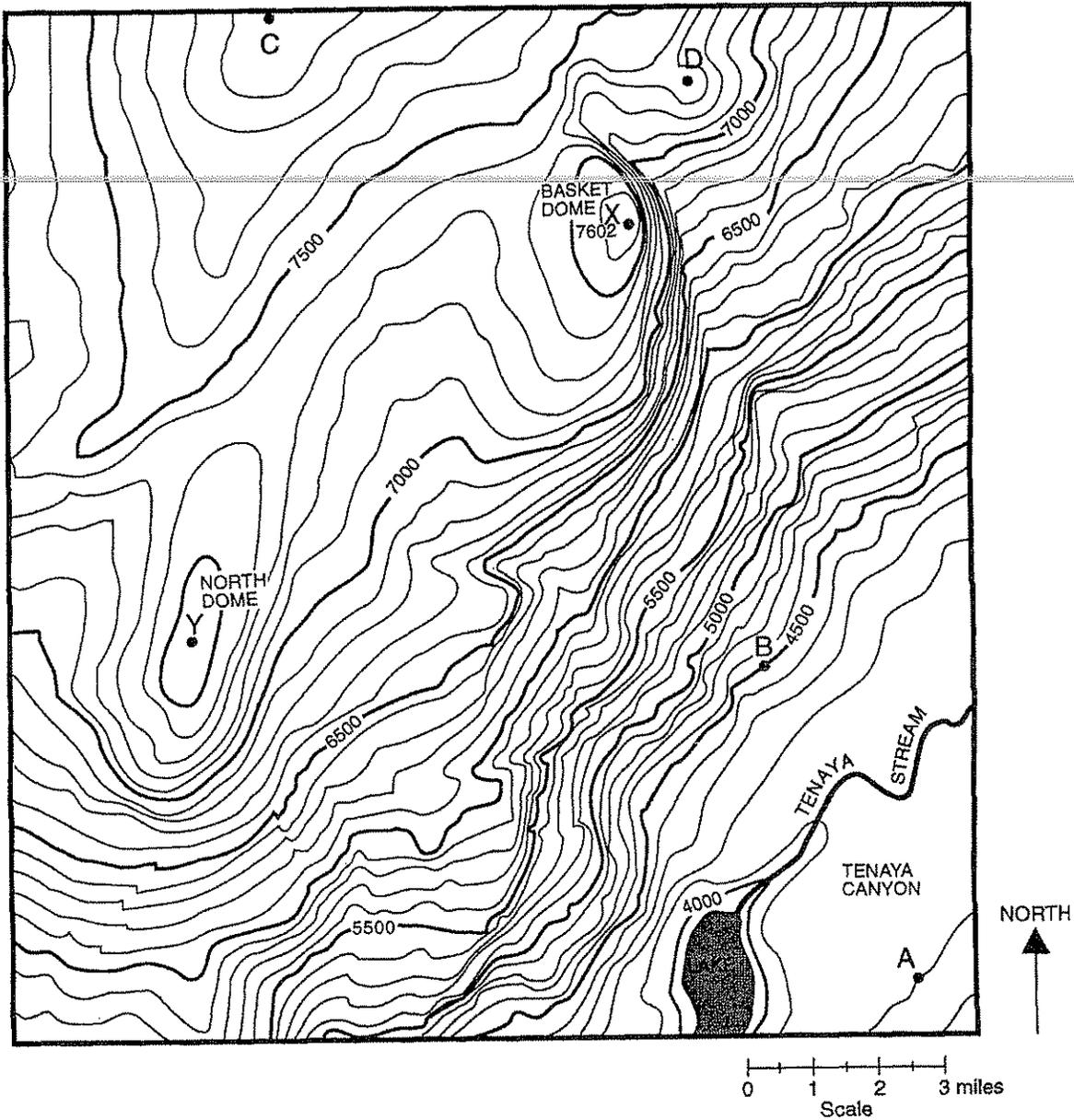

86. In which general direction does Tenaya Stream flow?
    (1) southeast to northwest   (2) northwest to southeast   (3) southwest to norheast   (4) northeast to southwest

87. Which graph best represents the profile along a line between point B and point A?
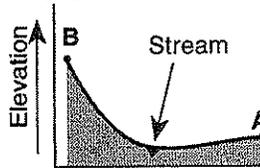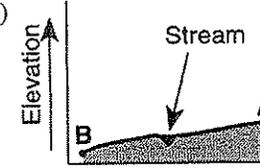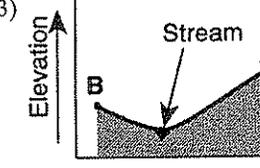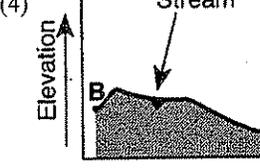
88. The highest elevation on the map is at point
    (1) *X*   (2) *Y*   (3) *C*   (4) *D*

89. The highest elevation of Basket Dome 40 years ago was measured at 7,600 feet. What is the rate of change in elevation for this area?
    (1) 0.6 in/yr   (2) 1.7 in/yr   (3) 24 in/yr   (4) 40 in/yr

Base your answers to questions **90** through **92** on the map below. The map shows a portion of the eastern United States with New York State shaded. The isolines on the map indicate the average yearly total snowfall, in inches, recorded over a 20-year period. Points *A*, *B*. and *C* are locations on Earth's surface. Latitude and longitude coordinates are shown along the border of the map.
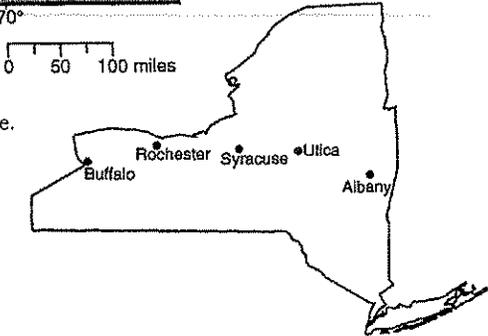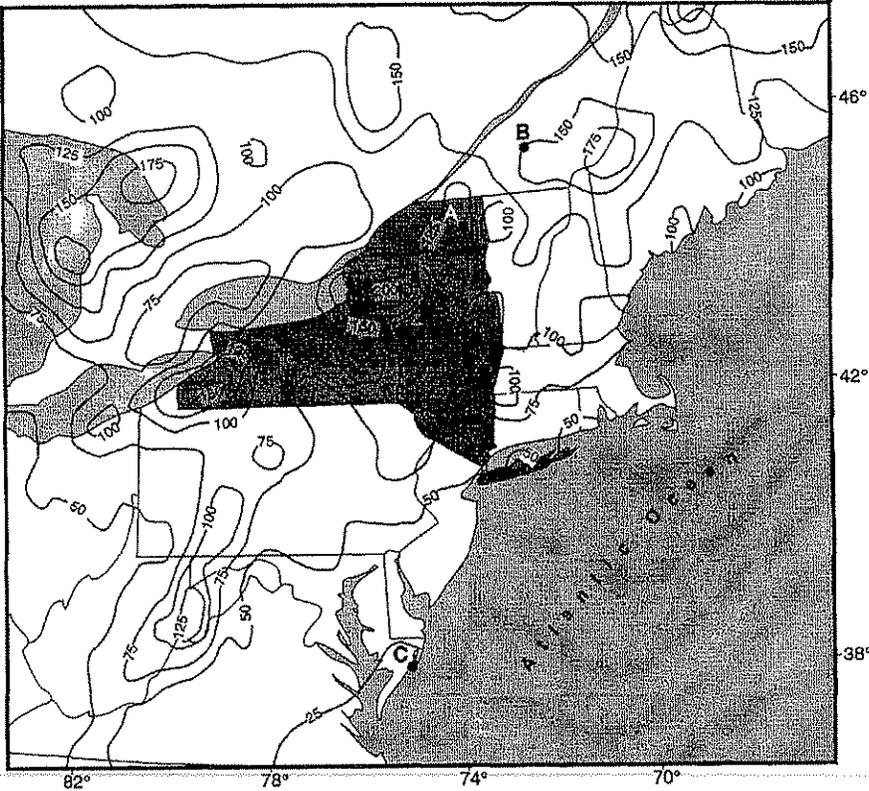

The diagram below shows the location of five cities in New York State.


90. Location C has a lower average yearly snowfall than location A primarily because location C has a
    (1) lower latitude   (3) higher elevation
    (2) higher longitude   (4) different prevailing wind direction

91. What is the approximate average yearly total snowfall gradient between locations A and B?
    (1) 0.25 in/ml   (2) 2.50 in/ml   (3) 0.40 in/ml   (4) 4.00 in/ml

92. Which graph best represents the total average annual snowfall for each of the five cities displayed in the lower map?

(1)

(2)

(3)

(4)
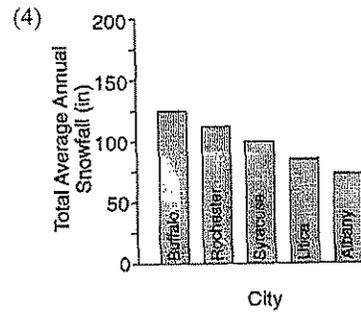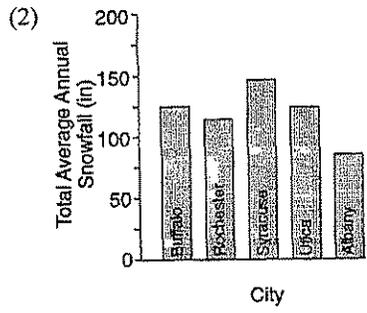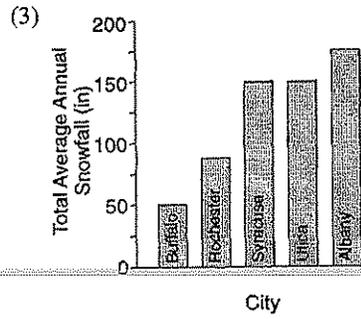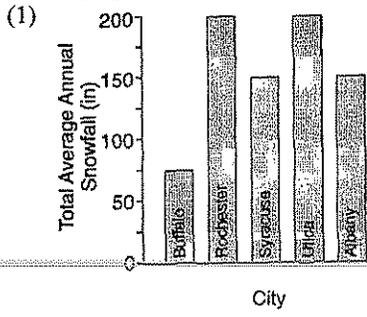
Base your answers to questions 93 through 97 on the *Earth Science Reference Tables*, the topographic map below, and your knowledge of Earth science. Points *A*, *B*, *X*, and *Y* are locations on the map. Elevations are shown in feet.

Distance (miles)
Contour interval = 20 feet
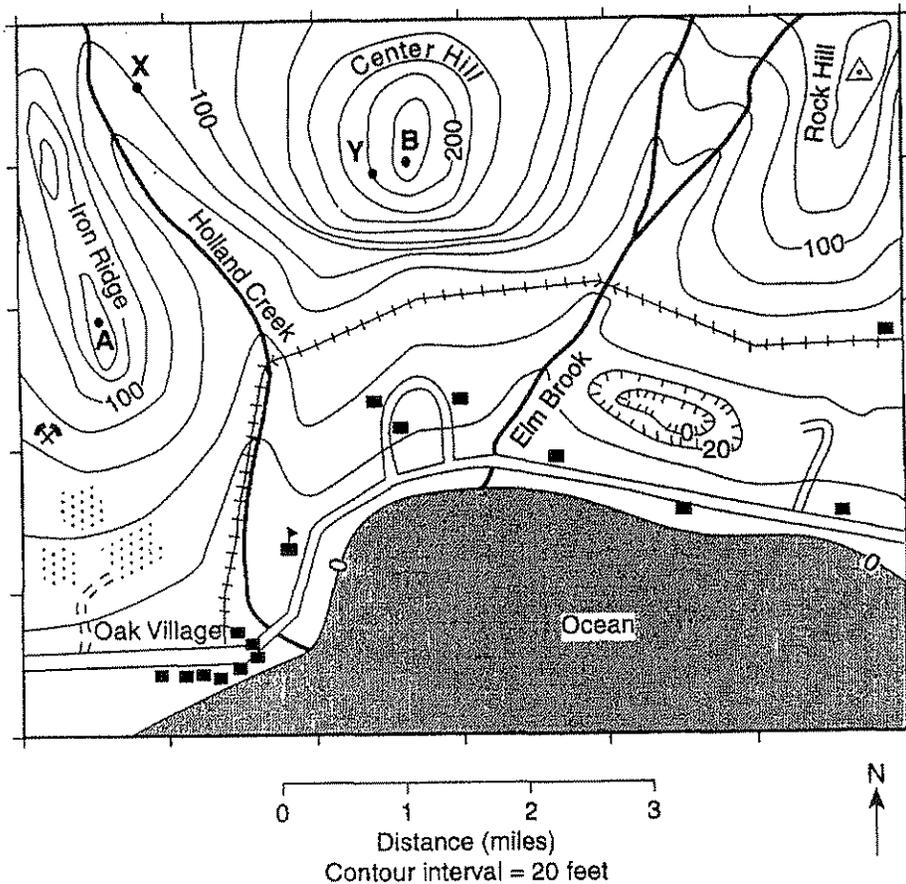
Symbols Key

△	Triangulation point	■	House
♪	School	⬭	Depression contours
⚒	Mine	+++	Railroad
		～≈≳≳	Roads

93. In which general direction is Elm Brook flowing?
   (1) southwest   (2) southeast   (3) northwest   (4) northeast

94. What is the approximate elevation of the triangulation point on the top of Rock Hill?
   (1) 124 ft   (2) 139 ft   (3) 144 ft   (4) 169 ft

95. Which diagram best represents the topographic profile along a straight line from point *A* to point *B*?

(1)

Elevation

A　　　B

(2)

Elevation

A　　　B

(3)

Elevation

A　　　B

(4)

Elevation

A　　　B
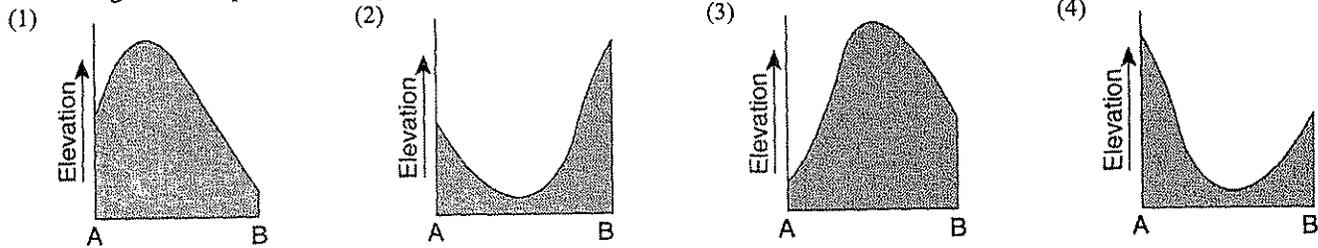
96. Which side of Center Hill has the steepest slope?
(1) north　　　　(2) south　　　　(3) east　　　　(4) west

97. What is the average gradient along a straight line between point *X* and point *Y*?
(1) 30 ft/mi　　　※　　(2) 40 ft/mi　　　　(3) 60 ft/mi　　　　(4) 70 ft/mi

Base your answers to questions **98** through **100** on the map below, which shows a portion of a drumlin field near Palmyra, New York. Elevations are in feet.

98. What is the contour interval of this map?
(1) 5 ft　　　　(2) 10 ft　　　　(3) 20 ft　　　　(4) 25 ft

99. At this location, the glacial ice generally advanced from the
(1) north　　　　(2) south　　　　(3) east　　　　(4) west

100. These drumlins are composed of sediments transported and deposited directly by glacial ice. These sediments are likely to be
(1) well-rounded, sand-sized particles
(2) well sorted in horizontal layers
(3) unsorted and not in layers
(4) found underwater, mixed with organic materials