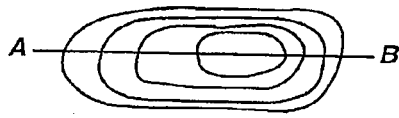
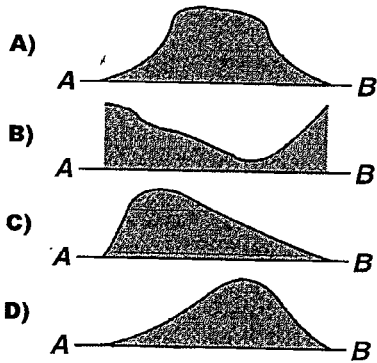


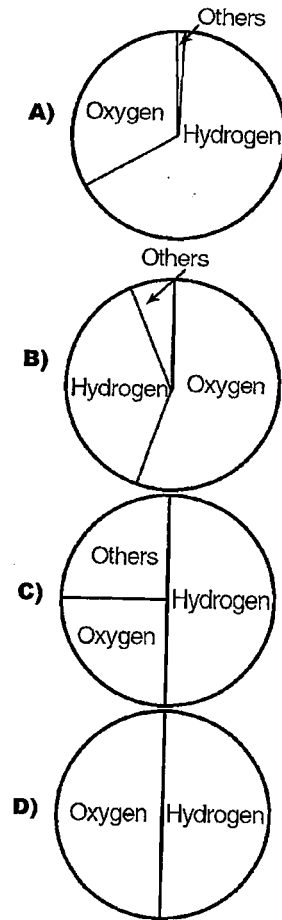
115) The diagram below represents contour lines on a topographic map with cross-section line AB.



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

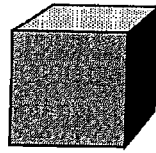


116) Which graph *best* represents the percentage by volume of the elements making up the Earth's hydrosphere?



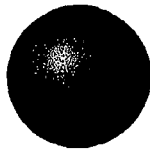
Questions 123 through 125 refer to the following:

The diagrams below represent four solid objects made of the same uniform material. The accepted values for the volume and mass of each object are given, except for the volume of object A.



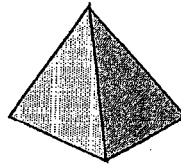
A

Mass = 8.00 g
Volume = ?



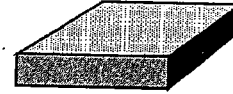
B

Mass = 6.30 g
Volume = 3.15 cm³



C

Mass = 4.00 g
Volume = 2.00 cm³



D

Mass = 3.50 g
Volume = 1.75 cm³

(not drawn to scale)

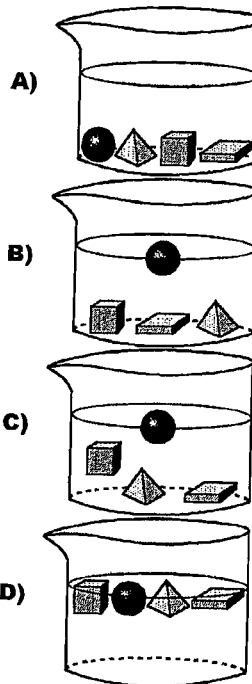
123) A sample having a volume of 1 cubic centimeter was cut from each object. Which is an accurate statement about the samples?

- A) Each sample has the same shape.
- B) The sample from object B has the greatest volume.
- C) Each sample has the same mass.
- D) The sample from object D has the greatest density.

124) What is the volume of object A?

- A) 8.00 cm³
- B) 4.00 cm³
- C) 1.00 cm³
- D) 2.00 cm³

125) Which diagram *best* shows what would happen if the four objects were placed in a large beaker of water at room temperature?



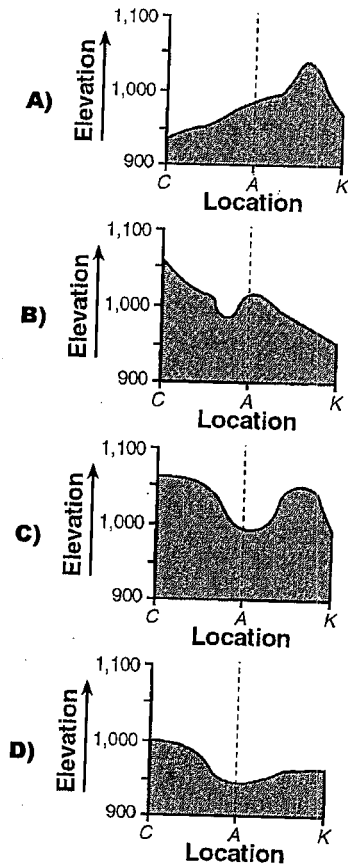
140) Which equation would be used to determine the stream gradient along Moose Creek between points J and K?

- A) gradient = $(1,040 \text{ m} - 960 \text{ m}) \times 20 \text{ m}$
- B) gradient = $\frac{1.8 \text{ km}}{80 \text{ m}} \times 100$
- C) gradient = $\frac{0.8 \text{ km}}{60 \text{ m}}$
- D) gradient = $\frac{80 \text{ m}}{1.8 \text{ km}}$

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

- A) F
- B) G
- C) H
- D) D

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



143) Toward which direction does Moose Creek flow?

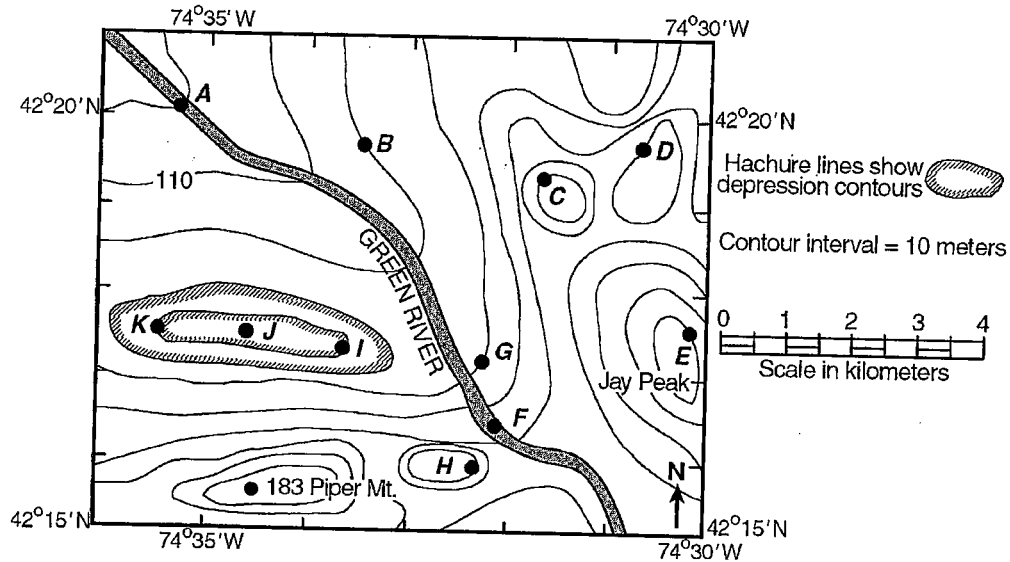
- A) southwest
- B) northeast
- C) southeast
- D) northwest

144) What is the lowest possible elevation of point B?

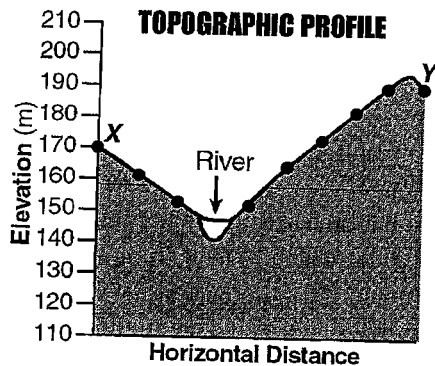
- A) 981 m
- B) 961 m
- C) 941 m
- D) 971 m

Questions 145 through 148 refer to the following:

Letters A through K are reference points on the contour map below.



145) The diagram below represents a topographic profile between two points on the map.



Which two locations are represented on the diagram by X and Y, respectively?

- A) B and H
- B) A and I
- C) K and C
- D) H and E

146) What is the latitude and longitude of location B?

- A) 42°19' N 74°33' W
- B) 42°19' N 74°34' W
- C) 42°20' N 74°33' W
- D) 42°20' N 74°34' W

147) Which points are located at the same elevation above sea level?

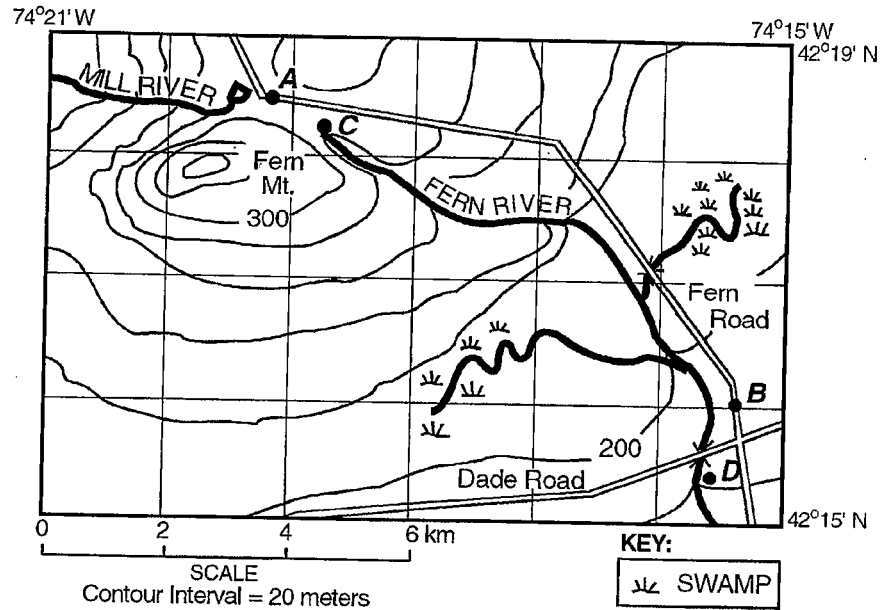
- A) I and K
- B) C and B
- C) H and E
- D) A and F

148) In which direction is Green River flowing?

- A) southwest
- B) northwest
- C) northeast
- D) southeast

Questions 166 through 170 refer to the following:

Points A through D represent locations in the region.



166) What is the approximate change in elevation from point C to point D?

- A) 280 m
- B) 500 m
- C) 300 m
- D) 100 m

167) Compared to Mill River, Fern River appears to

- A) flow toward the same lake
- B) have fewer tributaries
- C) flow in the opposite direction
- D) drain a smaller region

168) The top of Fern Mountain could have an elevation of

- A) 351 m
- B) 500 m
- C) 362 m
- D) 301 m

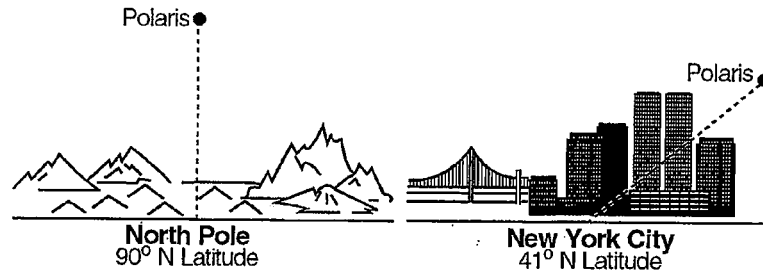
169) What is the approximate latitude of point B?

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

170) What is the approximate distance between point A and point B measured along Fern Road?

- A) 9.0 km
- B) 5.0 km
- C) 8.0 km
- D) 10.0 km

171) The diagrams below show the altitude of Polaris at two different Earth locations.



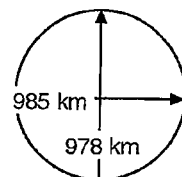
Which statement is *best* supported by the diagram?

- A) The altitude of Polaris varies with the season of the year.
 - B) Polaris is clearly visible only at the North Pole.
 - C) Polaris appears directly overhead at all locations in the Northern Hemisphere.
 - D) The altitude of Polaris is 41° at New York City.
- 172) The diagrams below compare the shapes of the Earth and three other planets. (Note: The diagrams are not drawn to scale.)

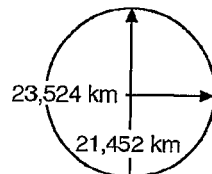
$$\left(\text{Roundness ratio} = \frac{\text{Polar diameter}}{\text{Equatorial diameter}} \right)$$



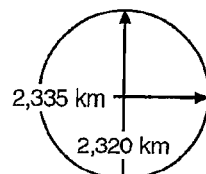
Earth
Polar diameter = 12,714 km
Equatorial diameter = 12,757 km
Roundness ratio = 0.9966



Planet A
Polar diameter = 978 km
Equatorial diameter = 985 km
Roundness ratio = 0.9929



Planet B
Polar diameter = 21,452 km
Equatorial diameter = 23,524 km
Roundness ratio = 0.9119

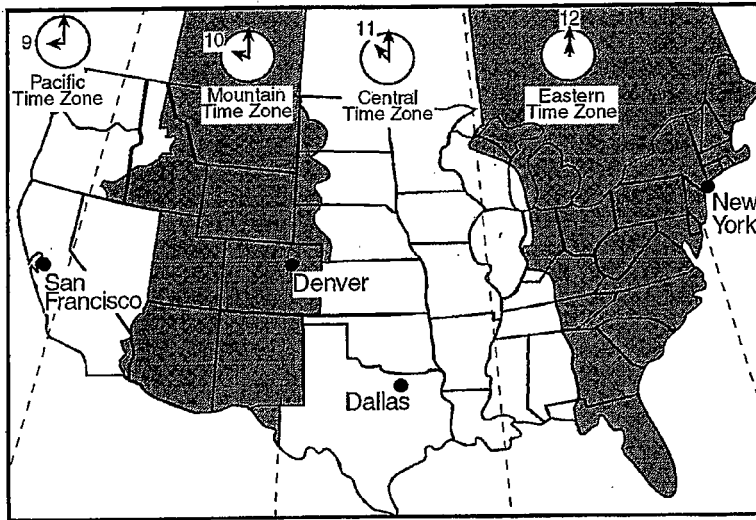


Planet C
Polar diameter = 2,320 km
Equatorial diameter = 2,335 km
Roundness ratio = 0.9935

How does the shape of the Earth compare to the shape of planets A, B, and C?

- A) The Earth is less round than planets A, B, and C.
- B) The Earth is more round than planets A, B, and C.
- C) The Earth is more round than planets A and B, but less round than planet C.
- D) The Earth is more round than planet A, but less round than planets B and C.

Questions 173 and 174 refer to the following:



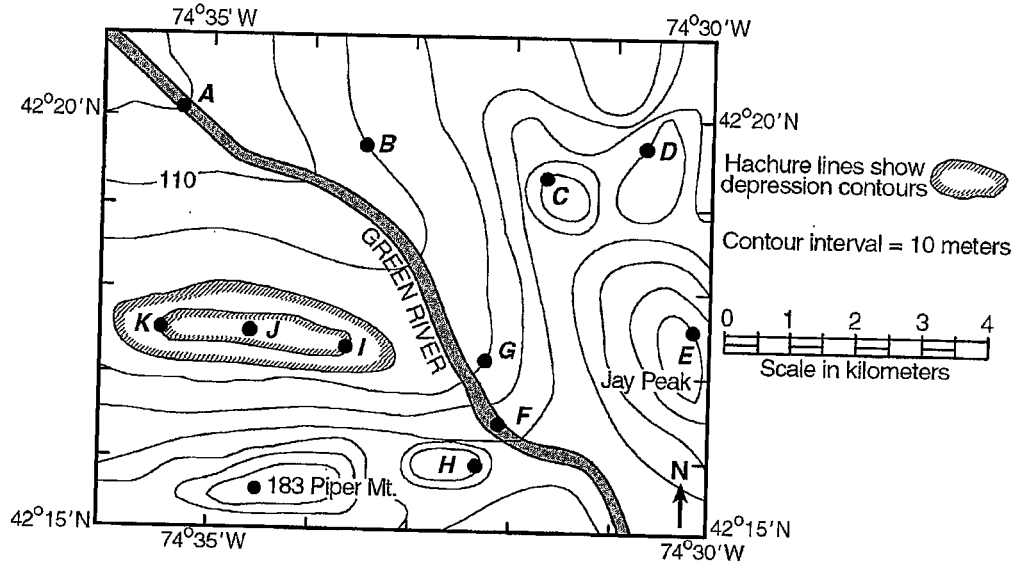
173) The dashed boundaries between time zones are how many degrees of longitude apart?

- A) 10°
- B) $23\frac{1}{2}^\circ$
- C) 15°
- D) 24°

174) What is the time in San Francisco when it is 6 a.m. in Dallas?

- A) 3 a.m.
- B) 5 a.m.
- C) 7 a.m.
- D) 4 a.m.

180) Letters A through K are reference points on the contour map below.

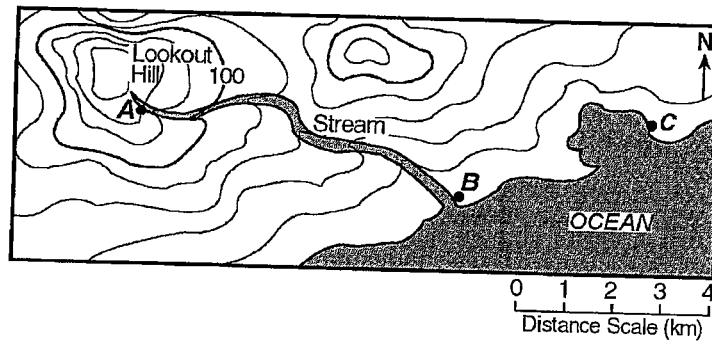


What is the approximate distance along Green River from point A to point F?

- A) 10 km
- B) 9 km
- C) 7 km
- D) 5 km

Questions 181 through 185 refer to the following:

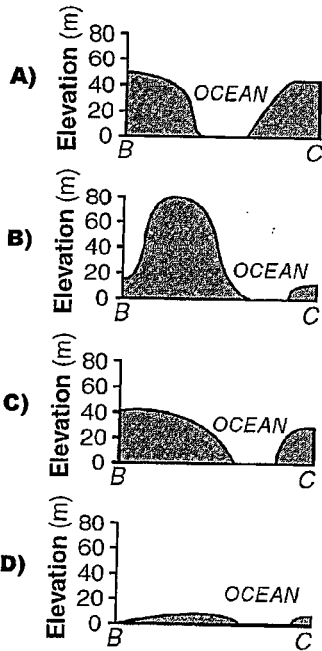
Points A through C are locations on the contour map below. Elevations are in meters.



181) Which side of Lookout Hill has the steepest slope?

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

182) Which diagram *best* represents the profile between point B and point C?



183) The elevation at point A is

- A) 300 m
- B) 140 m
- C) 60 m
- D) 100 m

184) What is the approximate length of the stream between point A and point B?

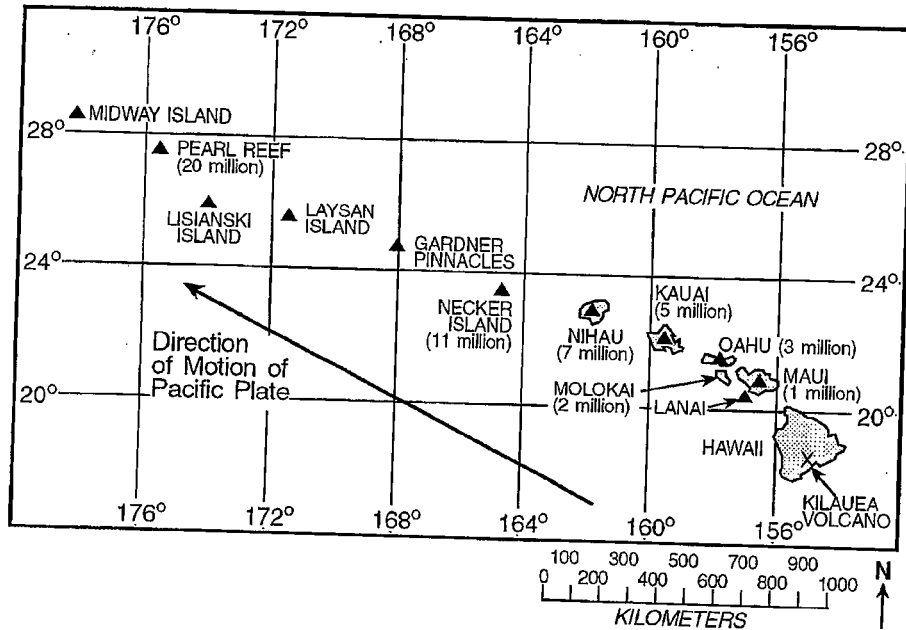
- A) 5 km
- B) 10 km
- C) 7 km
- D) 9 km

185) In which direction is the stream flowing?

- A) southwest
- B) southeast
- C) northeast
- D) northwest

186) The map below shows the location of major islands and coral reefs in the Hawaiian Island chain. Their ages are given in millions of years.

The islands of the Hawaiian chain formed from the same source of molten rock, called a hot plume. The movement of the Pacific Plate over the Hawaiian hot plume created a trail of extinct volcanoes that make up the Hawaiian Islands. The island of Hawaii (lower right) is the most recent island formed. Kilauea is an active volcano located over the plume on the island of Hawaii.



What is the location of Lisianski Island?

A) 26°S 174°W

B) 26°S 174°E

C) 26°N 174°W

D) 26°N 174°E