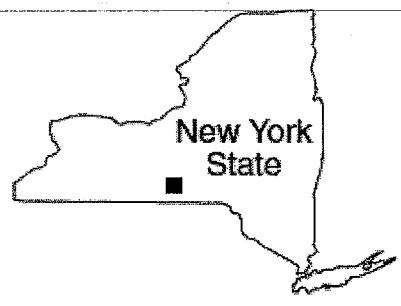
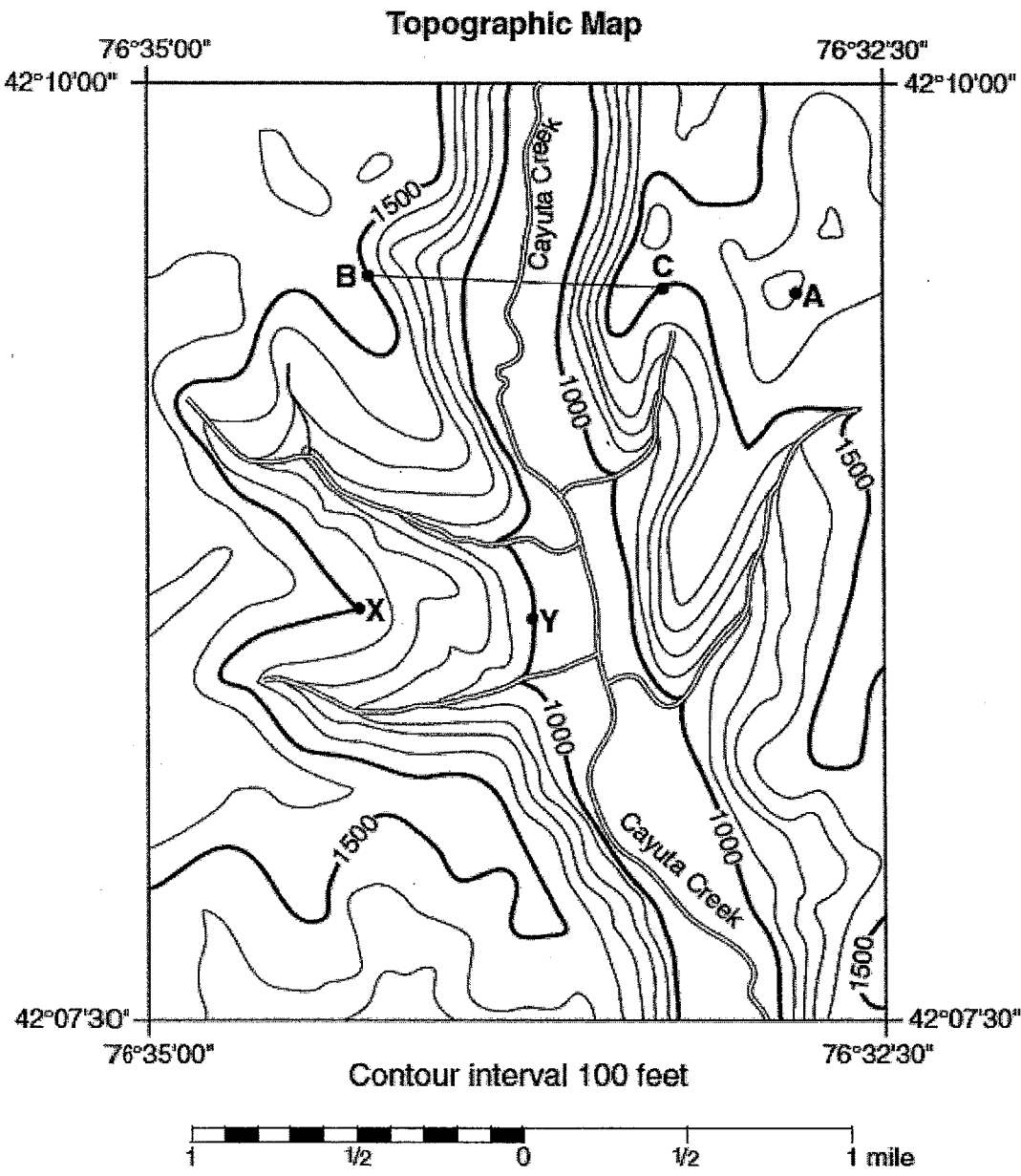
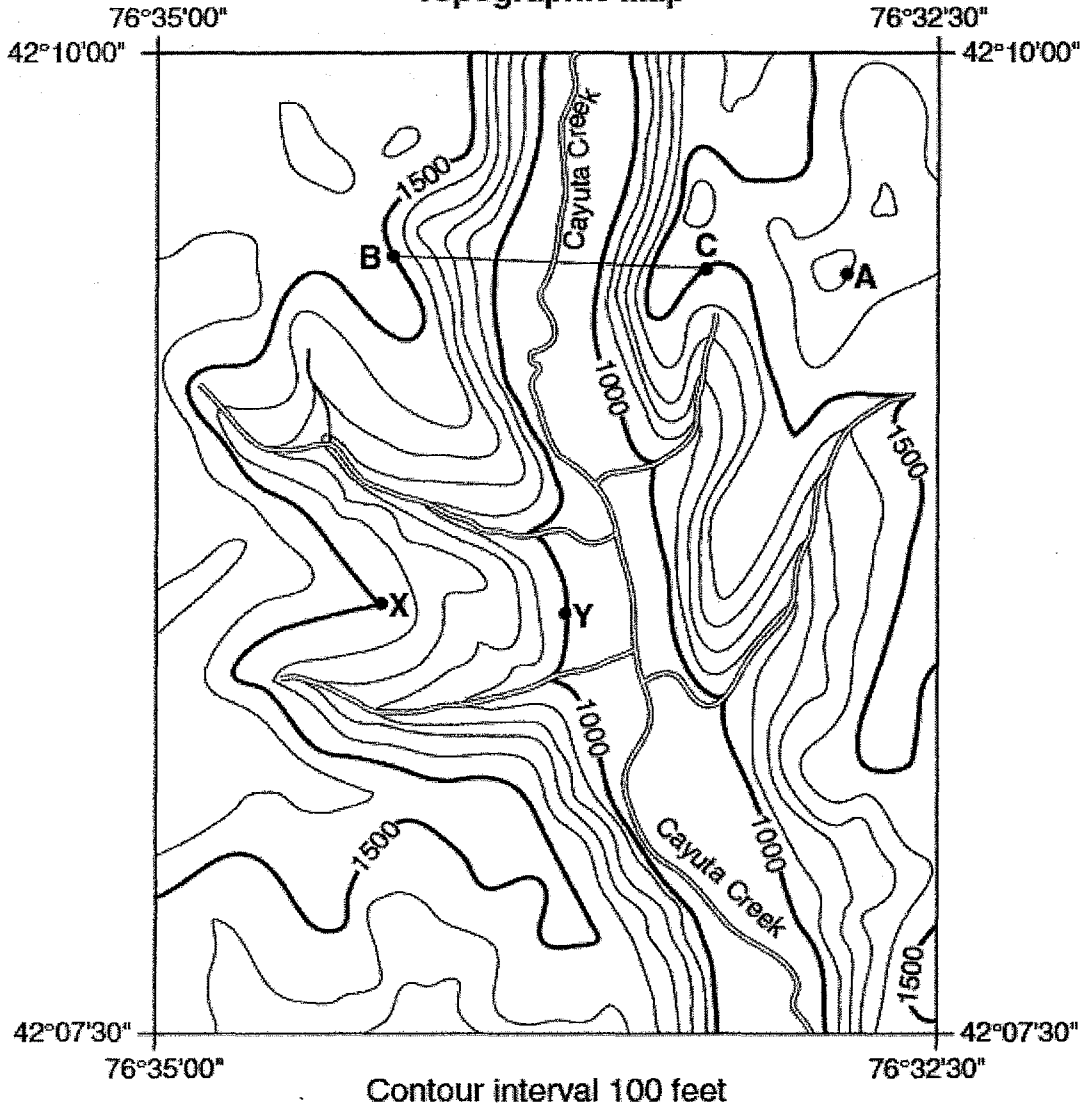


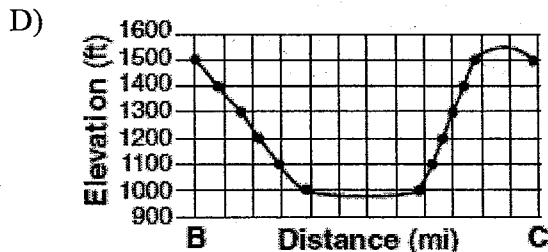
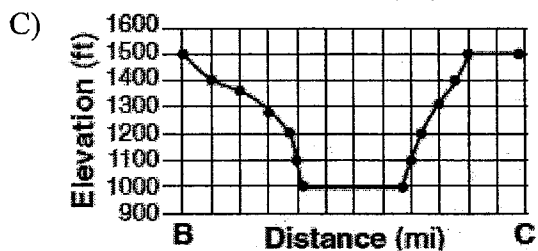
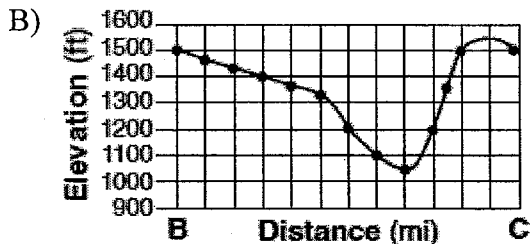
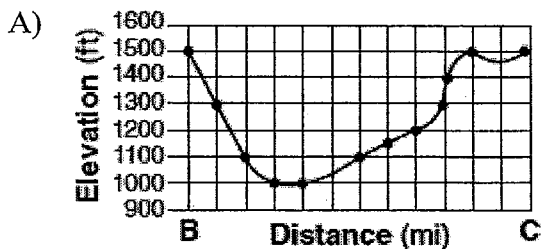
Base your answers to questions 1 through 3 on the maps below. Points A, B, C, X, and Y are locations on the topographic map. The small map identifies the New York State region shown in the topographic map.



Topographic Map



1 Which graph best represents the profile from point B to point C?



2 What is the elevation of point A on the topographic map?

- A) 1,700 ft B) 1,650 ft C) 1,600 ft D) 1,550 ft

3 What is the approximate gradient between point X and point Y?

- A) 100 ft/mi B) 250 ft/mi C) 500 ft/mi D) 1,000 ft/mi

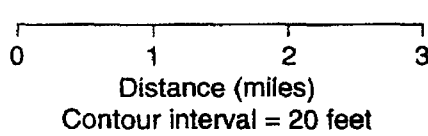
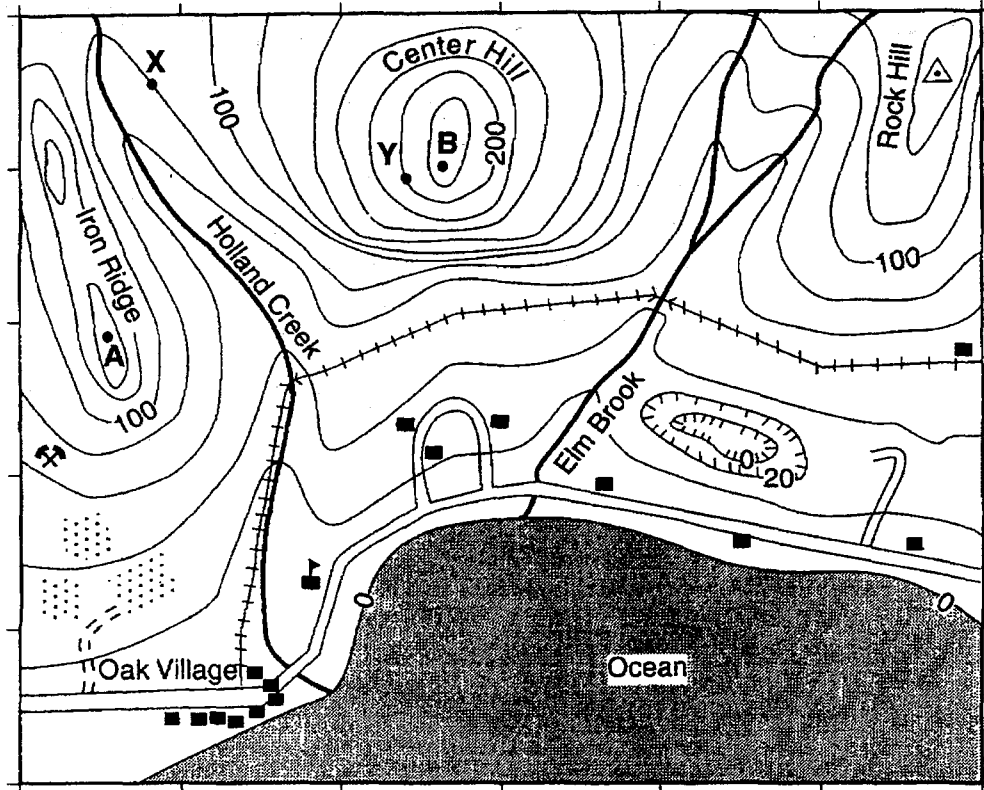
4 A stream begins at an elevation of 2,000 meters and ends in a lake at an elevation of 400 meters. The lake is 320 kilometers from the stream's source. What is the average gradient of the stream?

- A) 1.6 m/km B) 2.0 m/km
C) 5.0 m/km D) 8.0 m/km

5 A contour map shows two locations, X and Y, 5 kilometers apart. The elevation at location X is 800 meters and the elevation at location Y is 600 meters. What is the gradient between the two locations?

- A) 12 m/km B) 40 m/km
C) 120 m/km D) 160 m/km

Base your answers to questions 6 through 10 on the topographic map below. Points A, B, X, and Y are locations on the map. Elevations are shown in feet.



Symbols Key			
	Triangulation point		House
	School		Depression contours
	Mine		Railroad
			Roads

6 In which general direction is Elm Brook flowing?

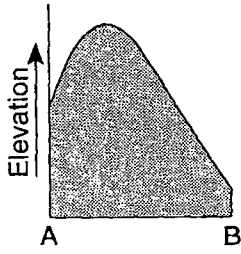
- A) southwest B) southeast C) northwest D) northeast

7 What is the approximate elevation of the triangulation point on the top of Rock Hill?

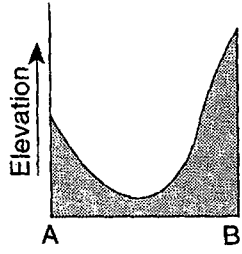
- A) 124 ft B) 139 ft C) 144 ft D) 169 ft

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

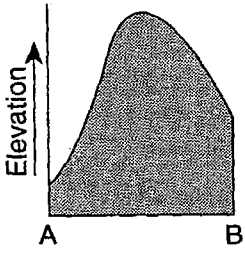
A)



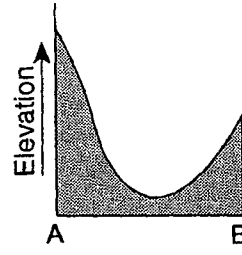
B)



C)



D)



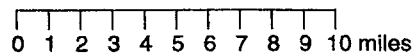
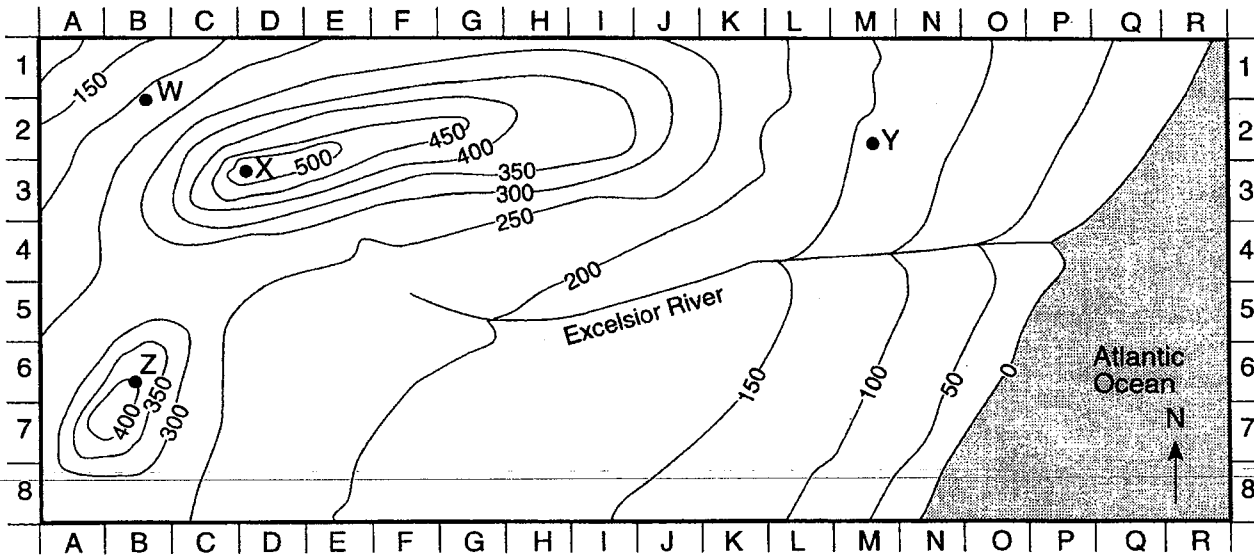
9 Which side of Center Hill has the steepest slope?

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

10 What is the average gradient along a straight line between point X and point Y?

- A) 30 ft/mi B) 40 ft/mi C) 60 ft/mi D) 70 ft/mi

Base your answers to questions 11 through 15 on the topographic map below that represents a location in North America. A grid system of letters and numbers along the edges of the map is provided to assist in finding locations. Elevations are expressed in feet.



11 What is the approximate elevation at grid location 7-I?

- A) 140 ft B) 170 ft C) 200 ft D) 230 ft

12 What is a possible elevation at point *X* (grid location **3-D**)?

- A) 488 ft B) 548 ft C) 558 ft D) 598 ft

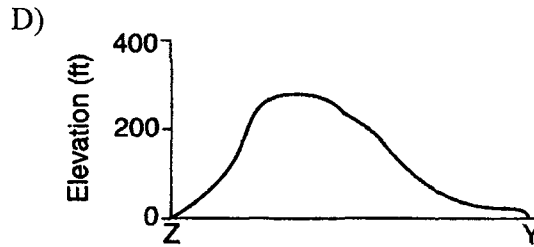
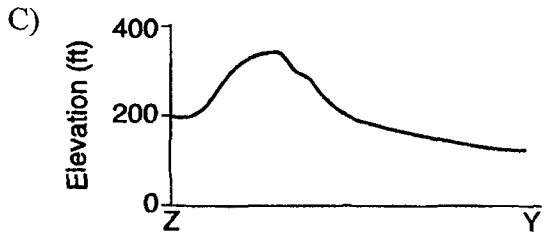
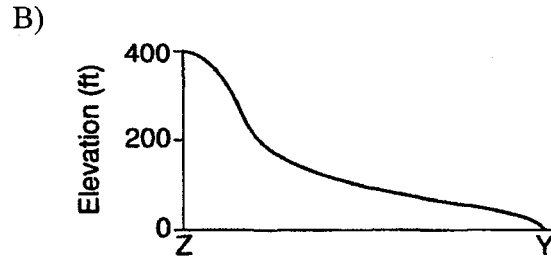
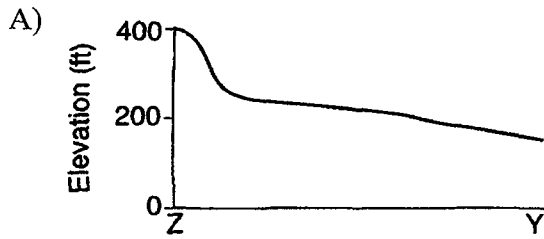
13 If a person at point *W* (grid location **2-B**) travels uphill, in which direction is the person traveling?

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

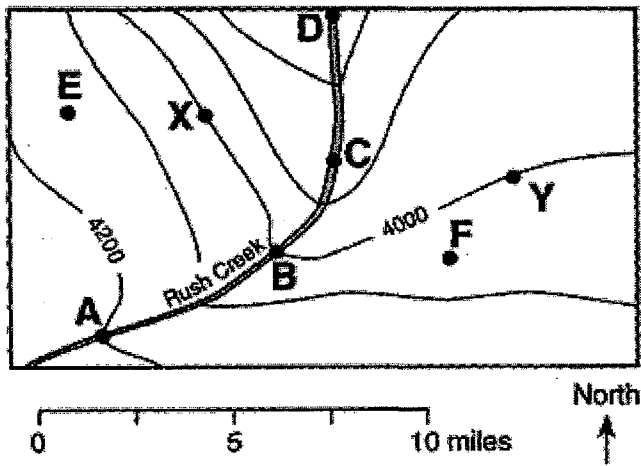
14 What is the gradient of the entire length of the Excelsior River?

- A) 0.1 ft/mi B) 11 ft/mi C) 24 ft/mi D) 48 ft/mi

15 Which profile best represents the topography along a straight line from point *Z* (**6-B**) to point *Y* (**2-M**)?



Base your answers to questions 16 through 19 on the topographic map below. Points *A*, *B*, *C*, *D*, *E*, *F*, *X*, and *Y* are locations on the map. Elevation is measured in feet.



16 What is the contour interval used on this map?

- A) 20 ft
- B) 50 ft
- C) 100 ft
- D) 200 ft

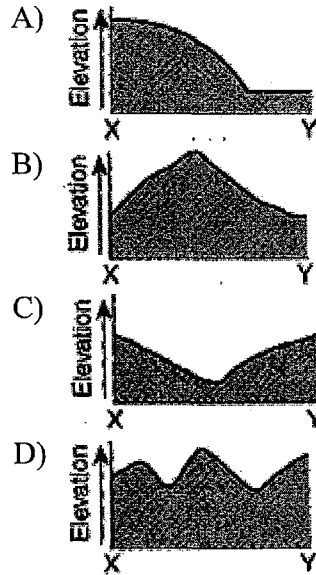
17 Which locations have the greatest difference in elevation?

- A) *A* and *D*
- B) *B* and *X*
- C) *C* and *F*
- D) *E* and *Y*

18 Between points *C* and *D*, Rush Creek flows toward the

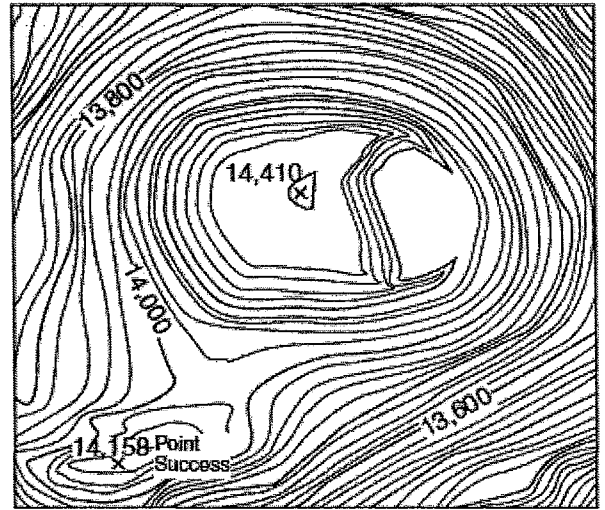
- A) north
- B) south
- C) east
- D) west

19 Which diagram best represents the profile along a straight line between points *X* and *Y*?



20 A topographic map of Mt. Rainier in Washington State is shown below.

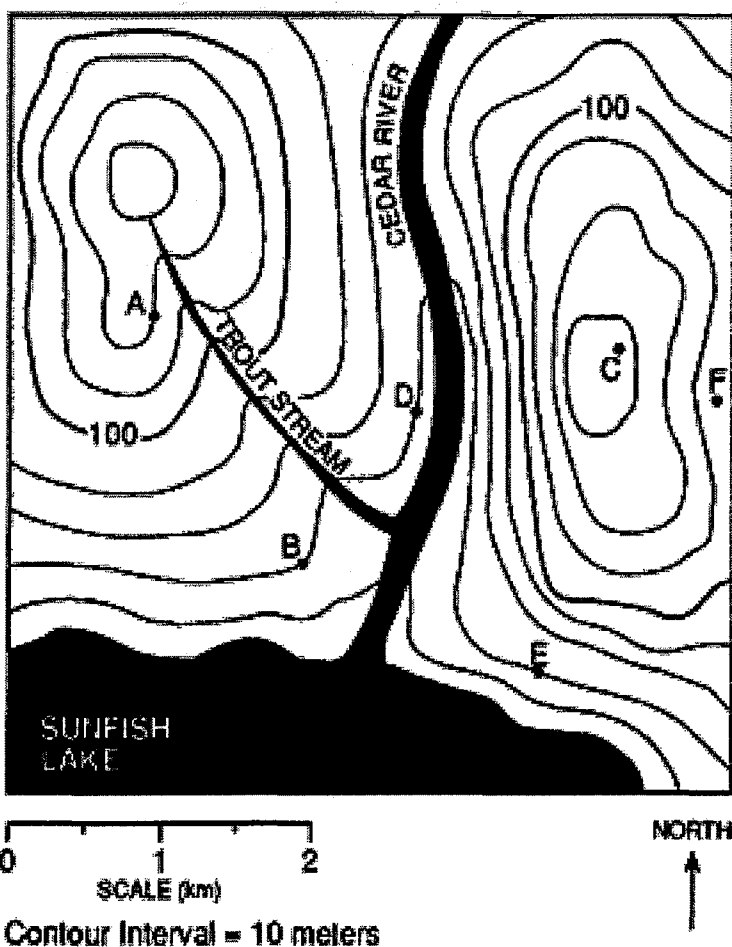
Mt. Rainier



What is the contour interval of the map?

- A) 20 ft
- B) 40 ft
- C) 100 ft
- D) 200 ft

Base your answers to questions 21 through 25 on the contour map below. Points *A* through *F* represent locations on the map.



21 What is the most likely elevation of the surface of Sunfish Lake?

- A) 151 m B) 140 m C) 55 m D) 28 m

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

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

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

- A) Rivers shown on maps generally flow southward.
 B) Rivers always flow toward large bodies of water.
 C) Contour lines bend upstream when crossing a river.
 D) A large body of water is generally the source of water for a river.

24 Which location has the same elevation as location *D*?

- A) *A* B) *E* C) *C* D) *F*