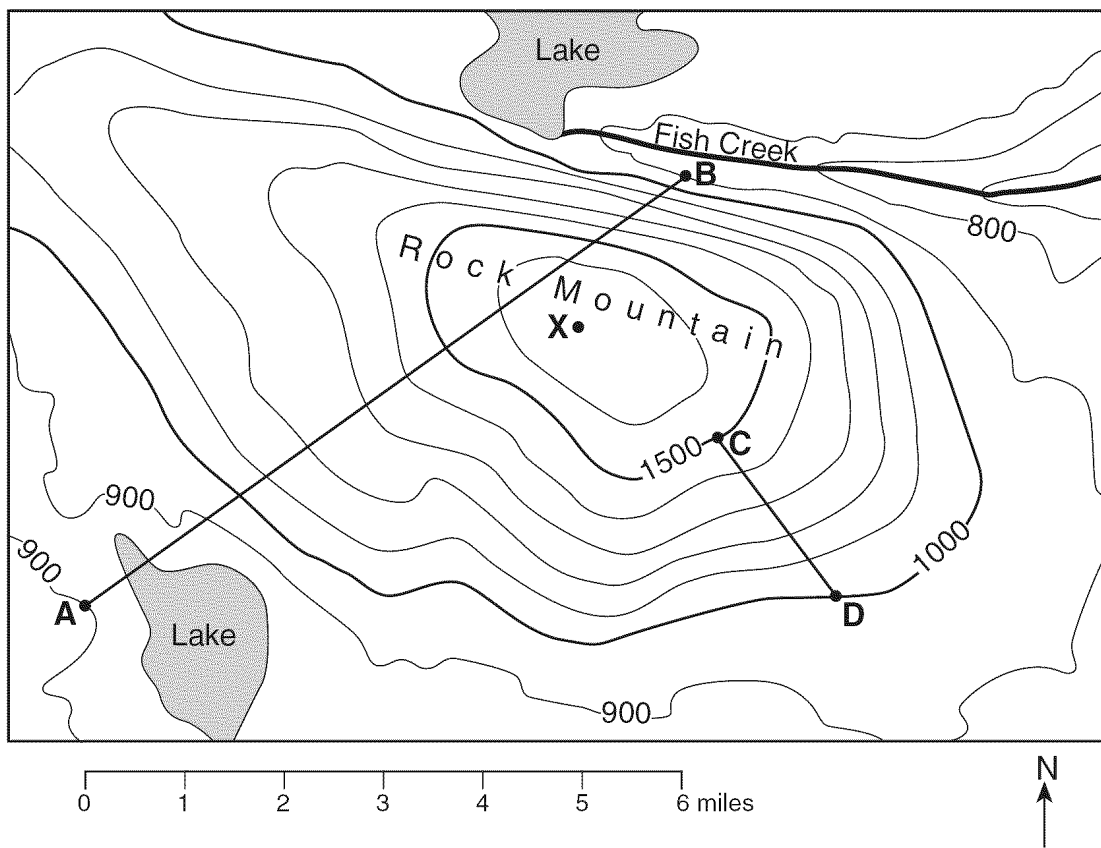


Name: _____

Class: _____

Isolines Review

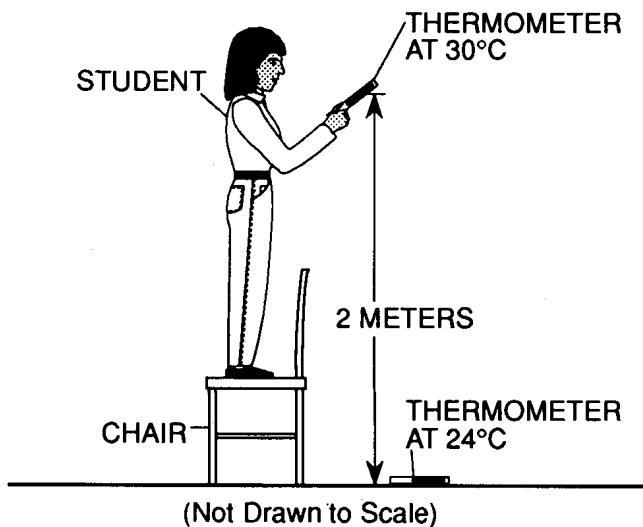
1. Base your answer to the following question on the topographic map below. Points *A*, *B*, *C*, *D*, and *X* represent locations on the map. Elevations are measured in feet.



What is the average gradient of the slope along straight line *CD*?

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

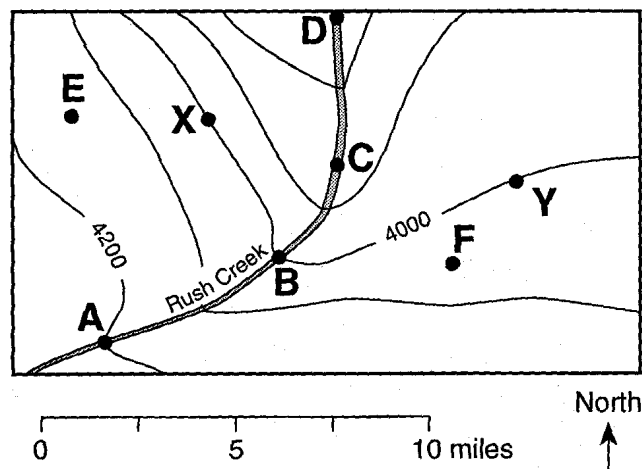
2. Base your answer to the following question on the diagram below. In the diagram below, the thermometer held 2 meters above the floor shows a temperature of 30°C. The thermometer on the floor shows a temperature of 24°C.



What is the temperature gradient between the two thermometers?

- A) 6° C/m B) 2° C/m C) 3° C/m D) 4° C/m

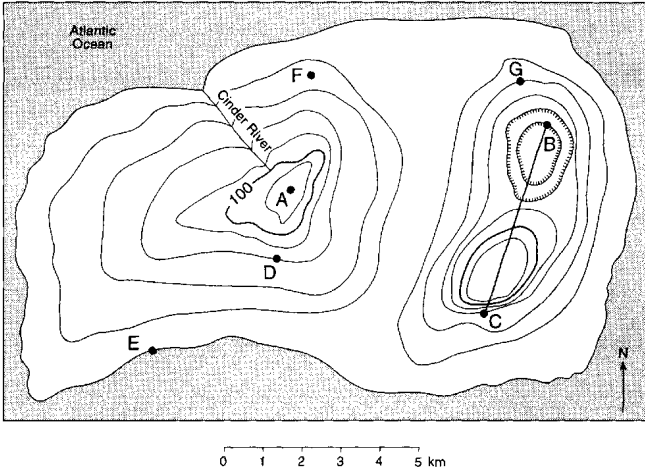
3. Base your answer to the following question on the topographic map below. Points *A*, *B*, *C*, *D*, *E*, *F*, *X*, and *Y* are locations on the map. Elevation is measured in feet.



The gradient between points *A* and *B* is closest to

- A) 20 ft/mi B) 40 ft/mi
C) 80 ft/mi D) 200 ft/mi

4. Base your answer to the following question on the contour map of an island below. Points *A* through *G* represent locations on the island. Elevations are in meters.



In which direction does the Cinder River flow?

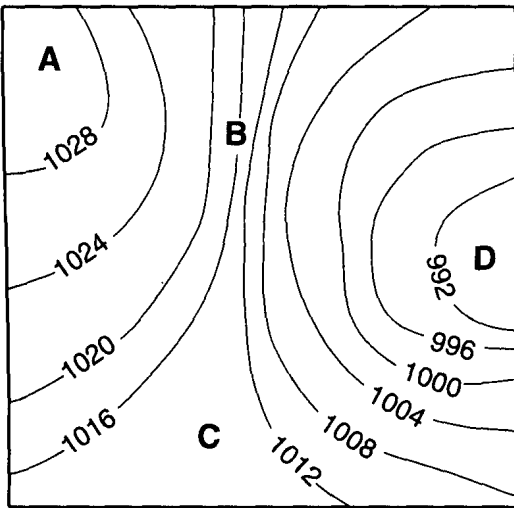
- A) southeast B) southwest C) northeast

D) northwest

5. As wind velocity decreases, the distance between isobars on a weather map will

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

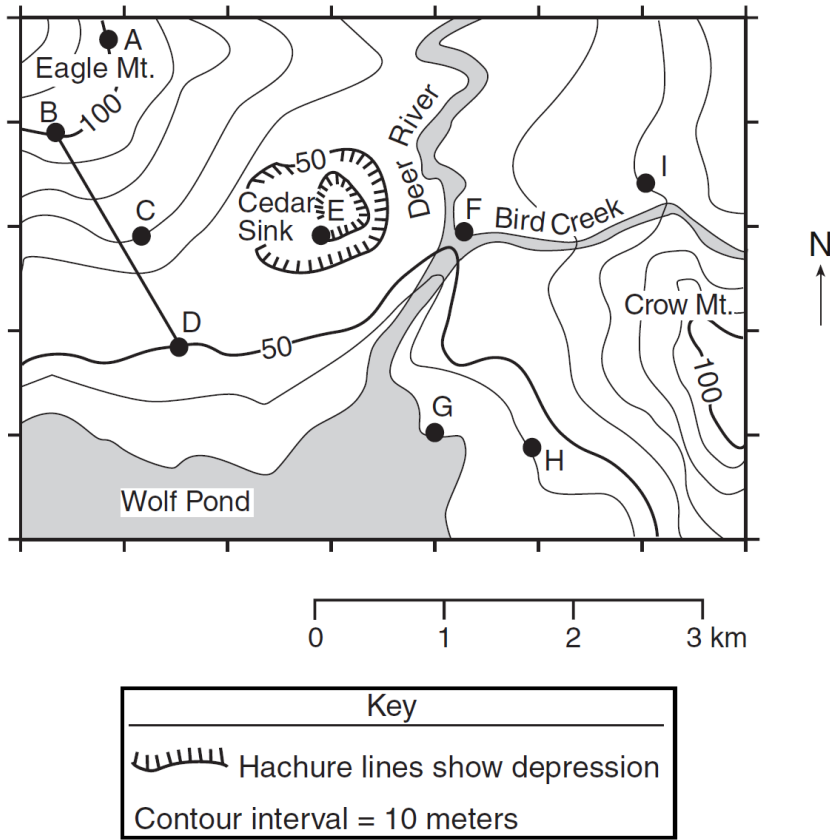
6. The weather map below shows a portion of an air-pressure field at Earth's surface. Isobars show air pressure in millibars.



At which location is windspeed greatest?

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

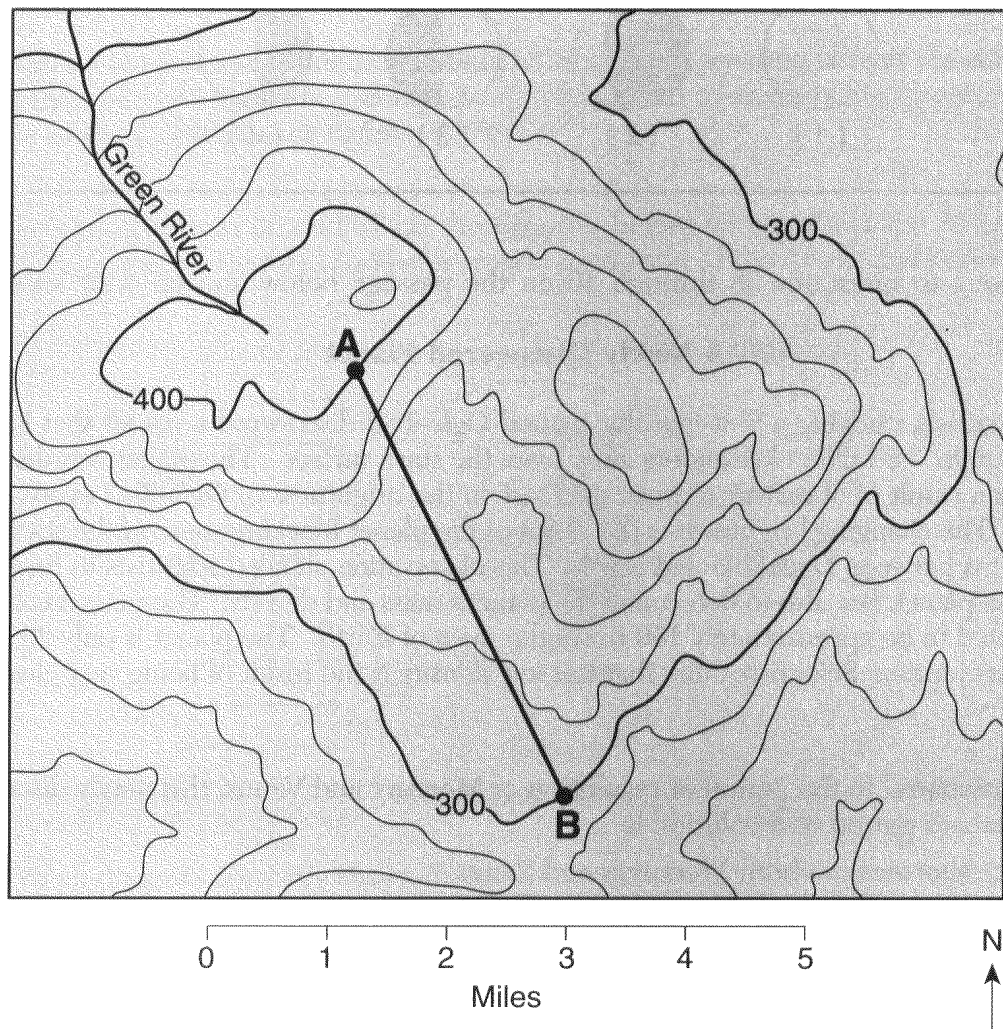
7. Base your answer to the following question on the topographic map below. Points *A* through *I* are locations on the map. Elevations are shown in meters.



What is the approximate gradient along line *BD*?

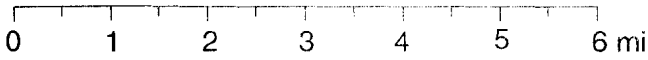
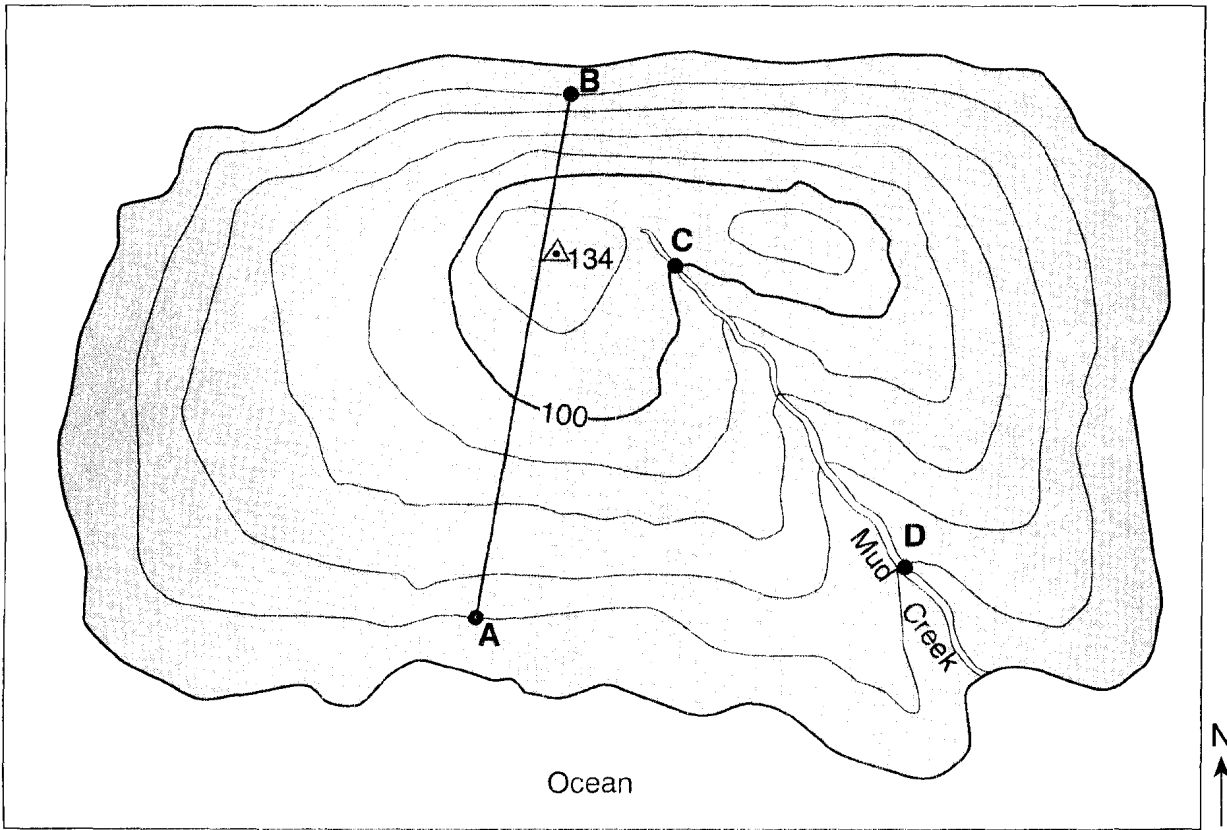
- A) 25 m/km B) 50 m/km C) 100 m/km D) 150 m/km

Base your answers to questions 8 and 9 on the topographic map below. Elevations are in feet. Point A and B are locations on the map.



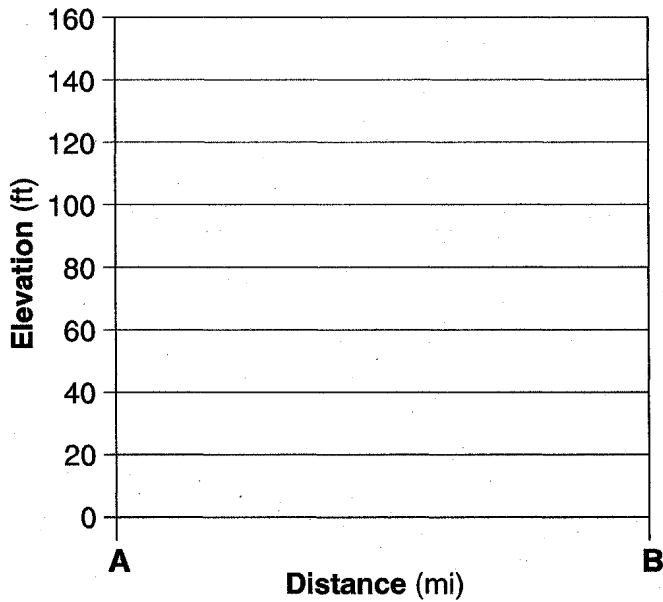
8. Toward which direction does the Green River flow?
- A) northeast **B) northwest** C) southeast D) southwest
9. What is the gradient along the straight line between points A and B?
- A) 10 ft/mi B) 20 ft/mi **C) 25 ft/mi** D) 35 ft/mi
-
10. A stream in New York State begins at a location 350 meters above sea level and flows into a swamp 225 meters above sea level. The length of the stream is 25 kilometers. What is the gradient of the stream?
- A) **5 m/km** B) 9 m/km
C) 12 m/km D) 17 m/km
11. A weather map of New York State shows isobars that are close together, indicating a steep pressure gradient. Which weather condition is most likely present?
- A) dry air **B) strong winds**
C) low temperatures D) low visibility

12. Base your answer to the following question on the topographic map below, which shows a small island in an ocean. Points *A*, *B*, *C*, and *D* represent surface locations on the island. The symbol $\triangle 134$ represents an elevation on the hilltop. Elevations are measured in feet and distances are measured in miles.

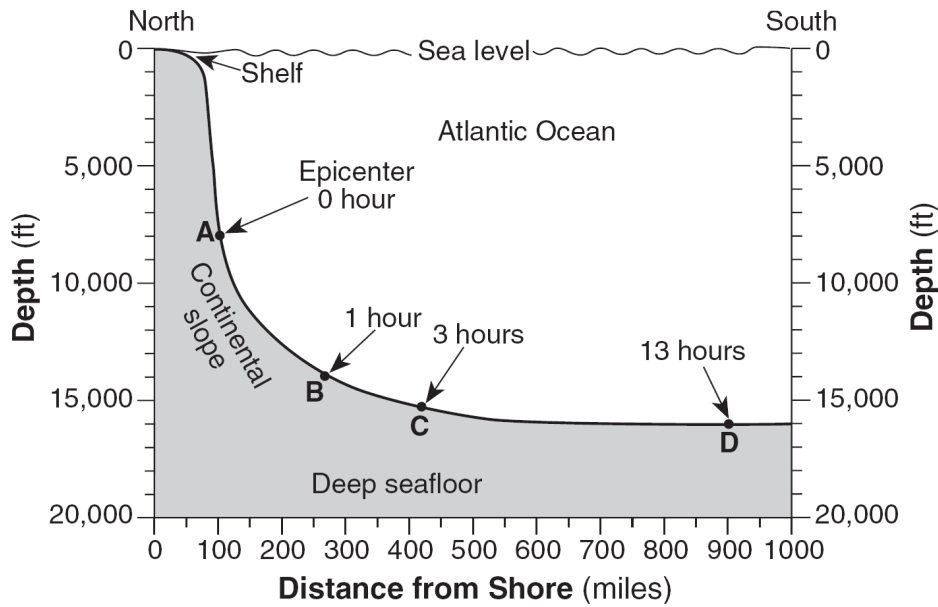


Contour interval = 20 feet

On the grid below, construct a profile 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.



Base your answers to questions 13 and 14 on the cross section below, which represents part of the Atlantic Ocean seafloor. An earthquake occurred on November 18, 1929, triggering an underwater sediment flow. The location of the epicenter is labeled. Letters A through D indicate locations on the seafloor. Time, in hours, at each lettered location represents the arrival of the sediment flow after the earthquake.



13. Calculate the gradient of the ocean floor between locations A and D and label your answer with the correct units.

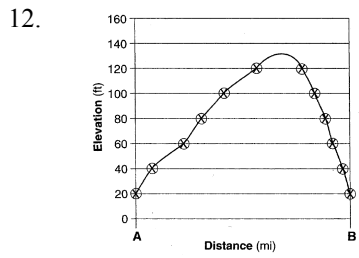
Gradient = _____

14. Explain why the velocity of the sediment flow created by the earthquake *decreased* as the sediment moved from location B to location C.

2.DESCRIBING THE EARTH (8)**2.B.Positions on Earth (6)****2.B.ii.Position Description (6)****2.B.ii.b.Topographical Maps/Gradient (6)****2.C.Constructed Response II (2)****5.WEATHER AND THE ATMOSPHERE (3)****5.A.Atmospheric Variables (2)****5.A.iii.Pressure Variations / Wind (2)****5.C.Atmospheric Energy Exchanges (1)****5.C.ii.Moisture and Energy Transfer (1)****5.C.ii.b.Wind Speed and Direction (1)****8.THE DEPOSITIONAL PROCESS (1)****8.E.Constructed Response VIII (1)**

#	QID#	Ans	Thinking Skills	Difficulty	Standards
1	5341	B		Intermediate	2.B.ii.b.
2	1301	C		Intermediate	801.
3	2880	B		Unassigned	2.B.ii.b.
4	3294	D		Unassigned	2.B.ii.b.
5	744	B		Unassigned	5.A.iii.
6	3652	B		Unassigned	5.C.ii.b.
7	4362	A		Unassigned	2.B.ii.b.
8	5673	B		Unassigned	2.B.ii.b.
9	5674	C		Unassigned	2.B.ii.b.
10	1849	A		Basic	801.
11	1986	B		Advanced	5.A.iii.
12	6367	n/a		Unassigned	8.E.
13	5766	n/a		Unassigned	2.C.
14	5767	n/a		Unassigned	2.C.

1. **B**
2. **C**
3. **B**
4. **D**
5. **B**
6. **B**
7. **A**
8. **B**
9. **C**
10. **A**
11. **B**



13. 9.75 to 10.25 — ft/mi
— feet/mile — ft per mile
14. *Examples:* — The slope decreased. — The gradient decreased from location *B* to location *C*. — The surface was steeper near *B* and flatter near *C*.

**Question ID's in Numerical
Order**

- 5. 744
- 11. 1986
- 3. 2880
- 4. 3294
- 6. 3652
- 7. 4362
- 1. 5341
- 8. 5673
- 9. 5674
- 13. 5766
- 14. 5767
- 12. 6367
- 2. 1301
- 10. 1849