

REGENTS EARTH SCIENCE ~ Answers

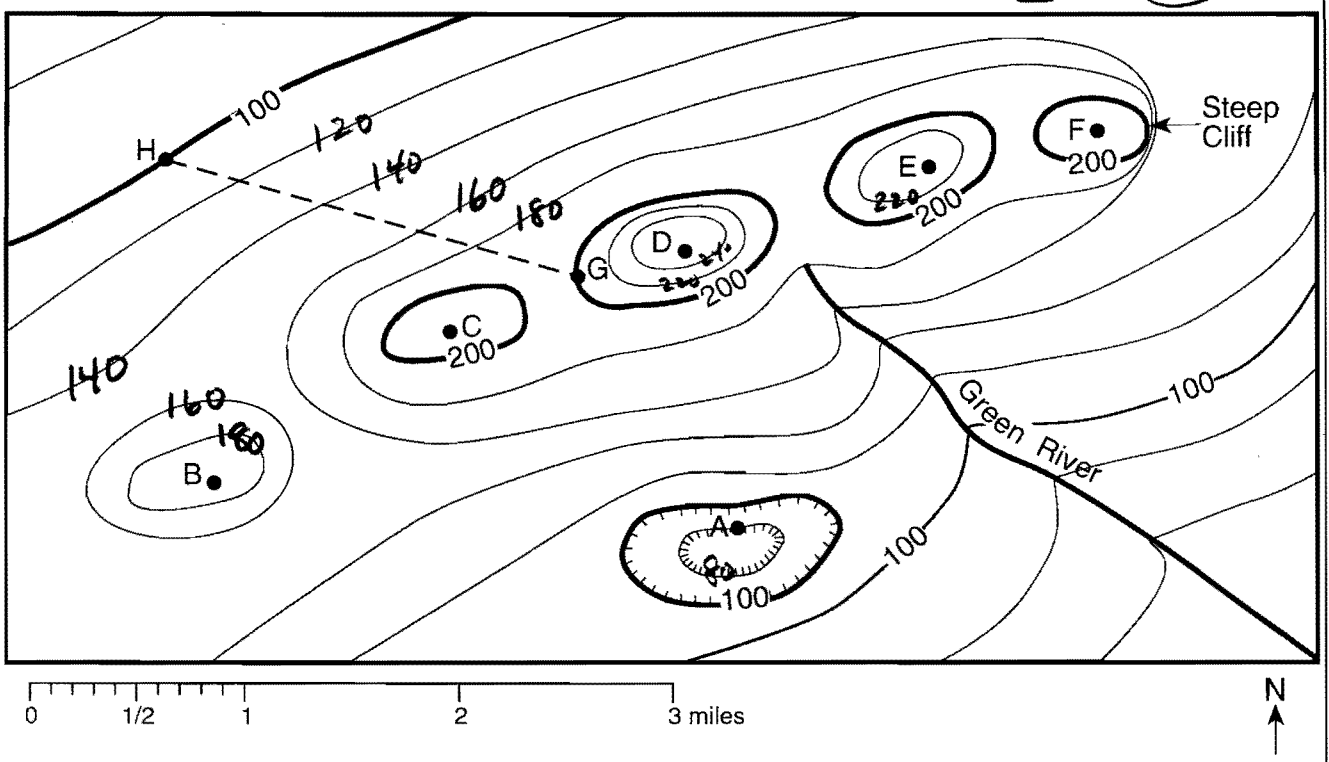
UNIT 1 Test ~ 2008 ~ Version A

1. __C__
2. __D__
3. __omit__
4. __C__
5. __B__
6. __A__
7. __D__
8. __C__
9. __C__
10. __D__
11. __D__
12. __D__
13. __C__
14. __C__
15. __D__
16. __D__
17. __B__
18. __C__
19. __B__
20. __D__
21. __C__
22. __A__
23. __A__
24. __D__
25. __A__
26. __C__
27. __B (omit)__

PART II -

Base your answers to questions 1 through 4 on the contour map below. Letters A through H represent locations in the area represented by the map. Contour lines are labeled in feet. NAME: Key

X/36



1 Explain how the contour lines on the map indicate that the location labeled "Steep Cliff" is accurately named.

2 Calculate the gradient of the slope along the dashed line between points G and H on the map. Label the answer with the correct units. Determine the elevations of A, B, C, D, E. UNITS!

3 State how the shape of the contour lines crossing the Green River indicates that this river flows toward the southeast. → Contours make "V" as they cross. "V" points up hill - water flows towards "open end" →

4 Which letter represents the highest elevation? → D

Answers -

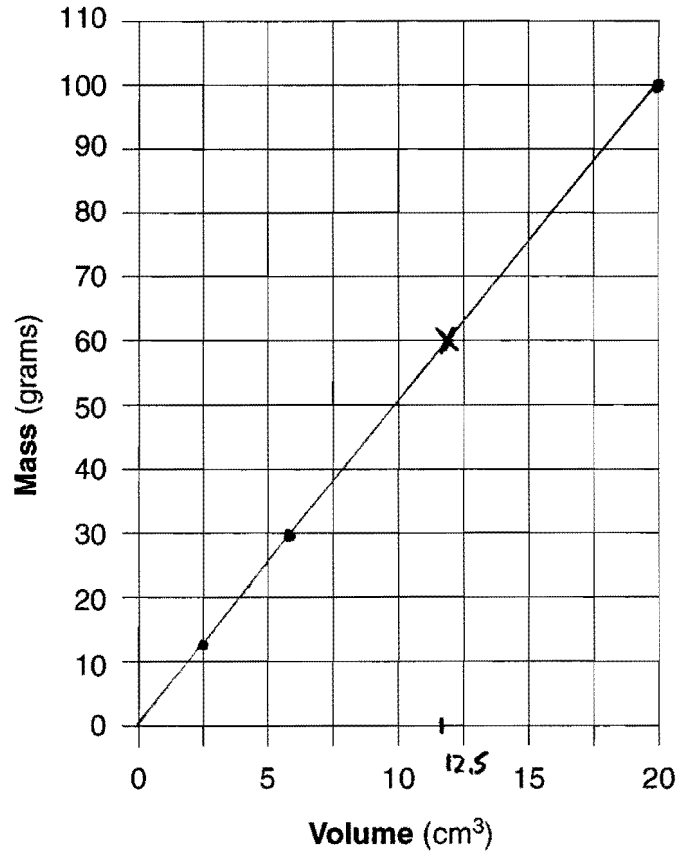
+3 * 1. Where steep cliff is labeled the contour lines are close together ⇒ steep!

+5 #2. A = 80 ft D = 241 - 259 ft
 B = 181 - 199 ft E = 221 - 239 ft
 C = 201 - 219 ft

5 6

Base your answers to questions 5 and 6 on the data table below, which shows the volume and mass of three different samples, A, B, and C, of the mineral pyrite.

Pyrite		
Sample	Volume (cm ³)	Mass (g)
A	2.5	12.5
B	6.0	30.0
C	20.0	100.0



+1

5. State the mass of a ~~6.0 cm³~~ sample of pyrite.

6 cm³

30 g

6. On the grid provided, plot the data (volume and mass) for the *three* samples of pyrite and connect the points with a line.

+2

Do 1st

7. State the volume of a 60 gram sample of pyrite.

+2

accept 11 - 12 cm³

$$D = \frac{m}{V}$$

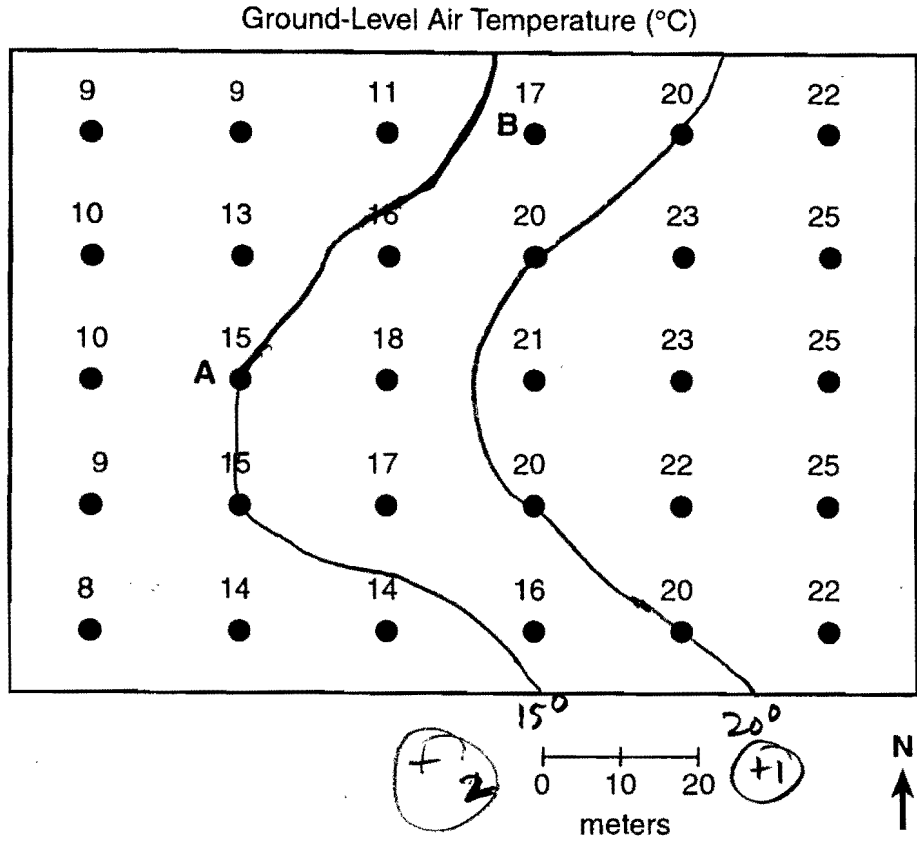
$$V = \frac{m}{V} = \frac{60}{5}$$

$$= 12 \text{ cm}^3$$

x/5

8 9

Base your answers to questions 8 through 9 on the field map provided below. The field map shows air temperature at specific locations in an area near a school in New York State. Part of this area is a blacktop parking lot. Accurate temperature readings were taken by Earth science students at 10 a.m. on June 1. Two reference points, A and B, are shown.



A-D₀ 1st

- 8 ● Calculate the temperature gradient along a straight line between point A and point B on the map by following the directions below. — place work @ bottom of page ...
- a Write the equation for determining the temperature gradient.
 - b Substitute the correct values into the equation.
 - c Solve the equation and record your answer in decimal form. Label the answer with the correct units.
- 9 ● On the field map provided, draw only the 15°C and the 20°C isotherms. Isotherms must be extended to the edge of the map.

$$\begin{aligned}
 \text{gradient} &= \frac{\Delta \text{ values}}{\text{distance}} \quad (+1) \\
 &= \frac{17^\circ - 15^\circ}{50 \text{ m}} \quad (+1) \\
 &= \frac{2^\circ}{50 \text{ m}} \\
 \text{gradient} &= 0.04^\circ / \text{meter}
 \end{aligned}$$

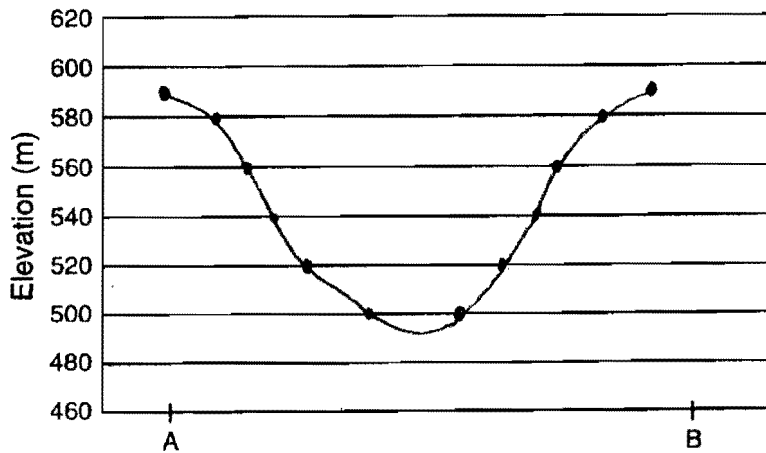
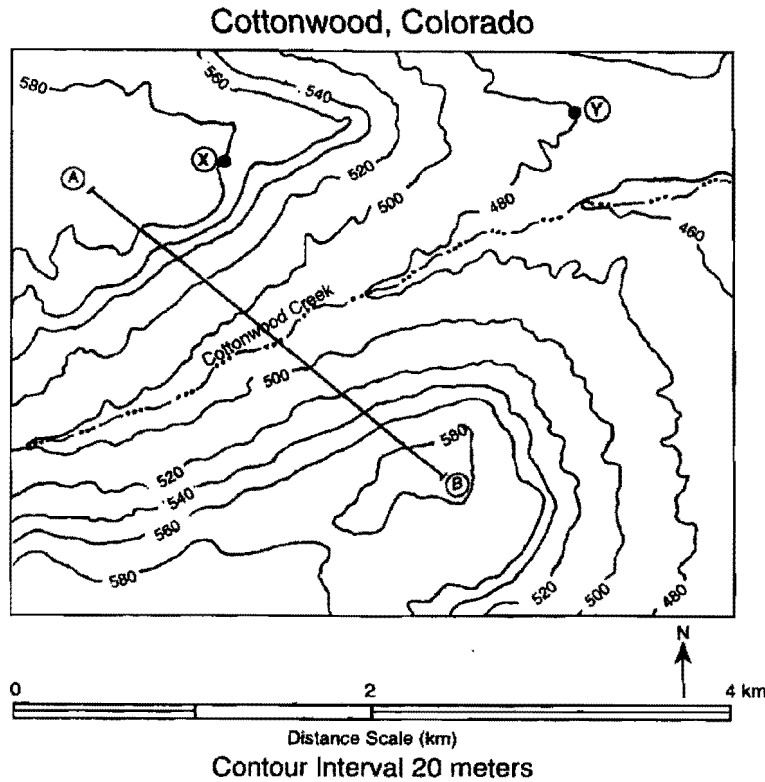
(+1) (+1)

(9)

B

X/7

Base your answers to questions 10 through 13 on the topographic map of Cottonwood, Colorado, below. Points A, B, X, and Y are marked for reference.



+1

$$\text{gradient} = \frac{\Delta \text{elevation}}{\Delta \text{distance}}$$

$$+1 = \frac{580 - 480 \text{ m}}{2 \text{ km}}$$

$$= \frac{100 \text{ m}}{2 \text{ km}}$$

$$= 50 \text{ m/km}$$

+2

10. In the space provided, calculate the gradient of the slope between points X and Y on the topographic map, following the directions below.

Work:

- Write the equation for gradient.
- Substitute data from the map into the equation.
- Calculate the gradient and label it with the proper units.

11. State the general direction in which Cottonwood Creek is flowing.

+3

NE

12. State the highest possible elevation, to the nearest meter, for point B on the topographic map.

599 m

13. On the grid provided on your answer paper, draw a profile of the topography along line AB shown on the map.

- Do Above!

x/12

+2
(4)