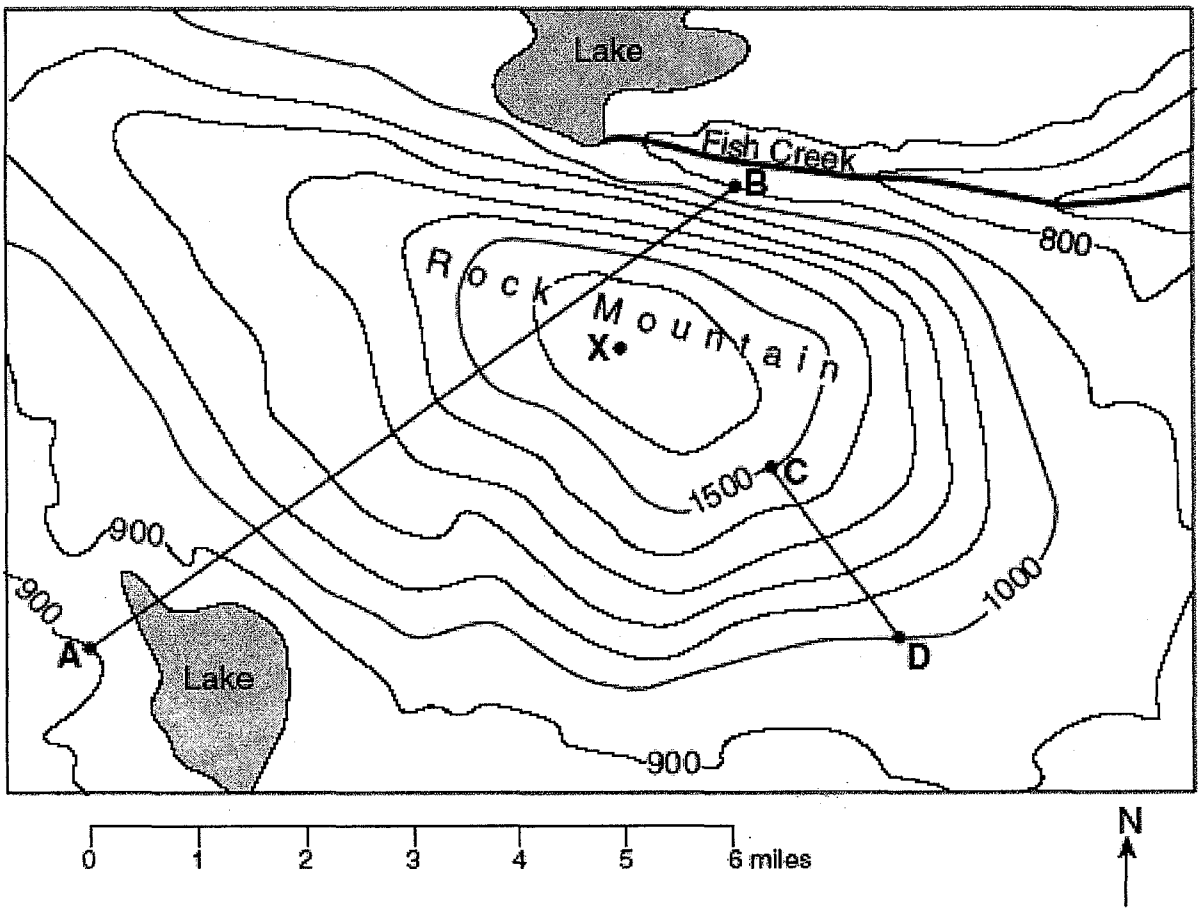
Earth Science

KEY

*Name:*_____ *Date:*_____ *Period:*_____

Topographic Map Worksheet

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



1. What is the elevation of each of the following points?

A. 900 FT B. 900 FT C. 1500 FT D. 1000 FT

2. What is the contour interval of this map? 100 FT

3a. Calculate the Gradient between C and D.

gradient = $\frac{\Delta \text{ in field Value}}{\text{distance}}$

gradient = $\frac{500\ FT}{2.0\ mi}$

gradient = 250 FT/mi

3b. Calculate the Gradient between A and B.

gradient = $\frac{\Delta \text{ in field Value}}{\text{distance}}$

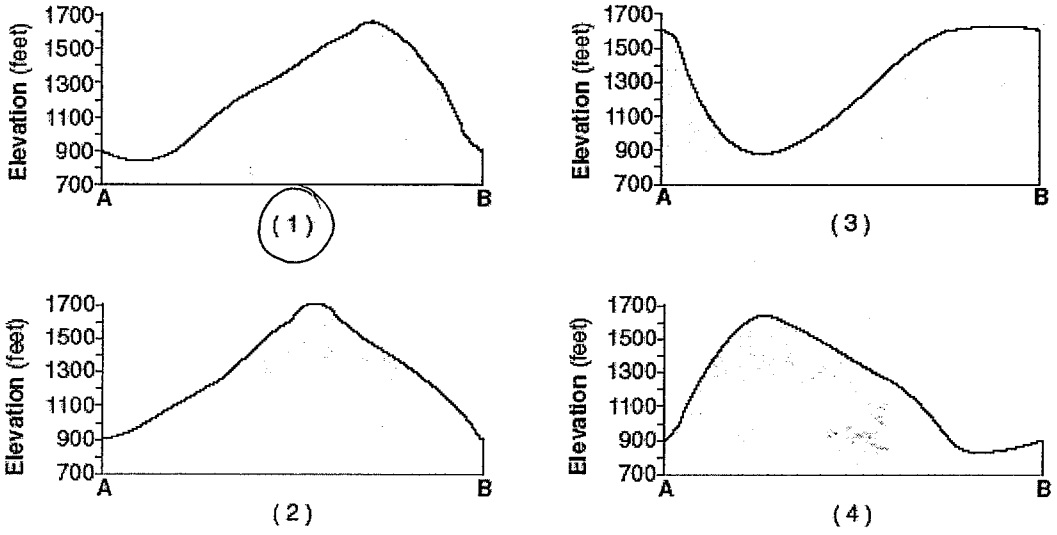
$\frac{0.0\ FT}{7.4 mi}$

gradient = $0.0 \frac{FT}{mi}$

4. In what direction does Fish Creek Flow? EAST

5. What is the elevation of Point X.? 1601 – 1699

6. Which cross section best represents the profile along straight line *AB*?



7. Which side of Rock Mountain is the steepest? (compass direction) N or NE

8. Which side of Rock Mountain has the gentlest slope? (compass direction) W

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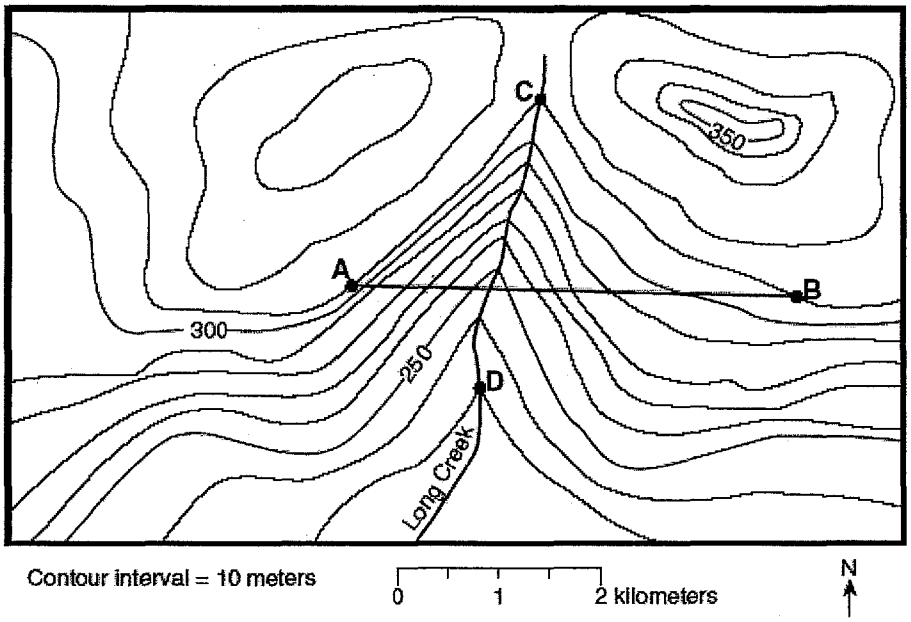
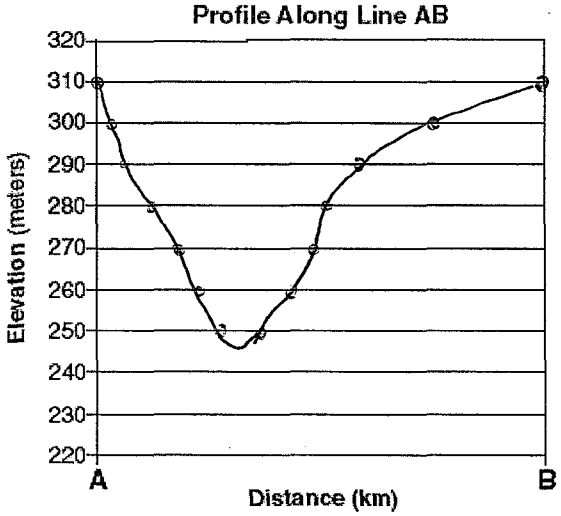
Topographic Map Worksheet #2



64 On the grid below, construct a topographic profile along line *AB*, by plotting a point for the elevation of *each* contour line that crosses line *AB* and connecting the points with a smooth, curved line to complete the profile. [2]



65. Calculate the gradient between C and D:

gradient = $\frac{\Delta \text{ in field value}}{\text{distance}}$

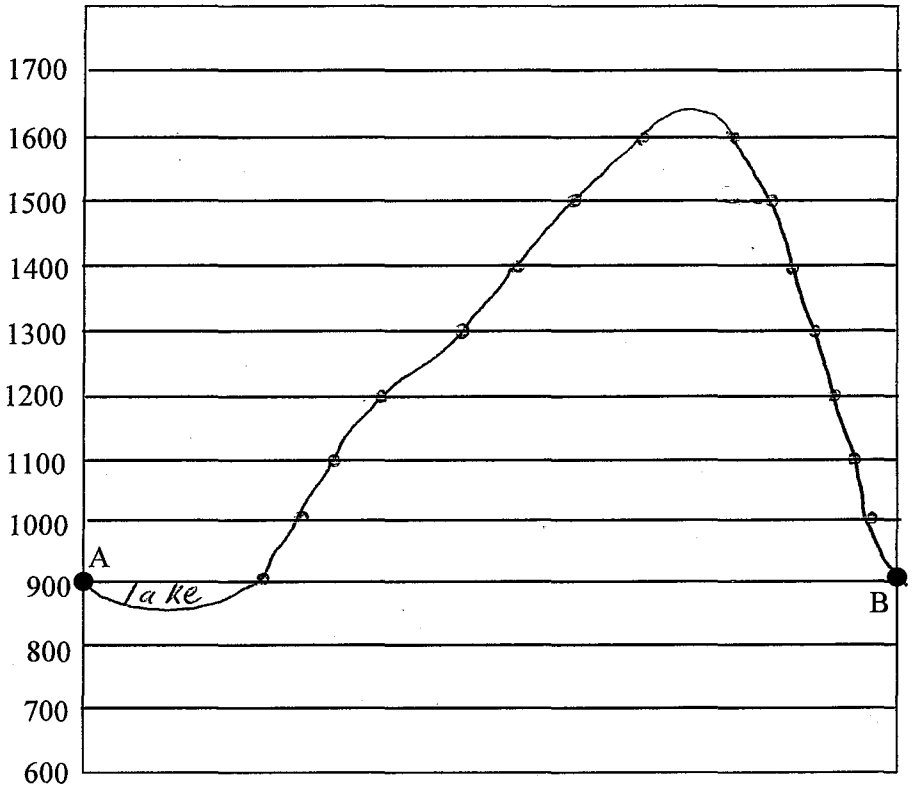
gradient = $\frac{310\text{ m} - 230\text{ m}}{3\text{ Km}}$

gradient = $26.7\ \frac{\text{m}}{\text{Km}}$

9. On the grid, construct a topographic profile from point *A* to point *B* by following the directions below.

a. Plot the elevation along line *AB* by marking with a ● *each* point where a contour line is crossed by line *AB*. Points *A* and *B* have been plotted for you.

b. Complete the profile by correctly connecting the plotted points with a smooth, curved line.



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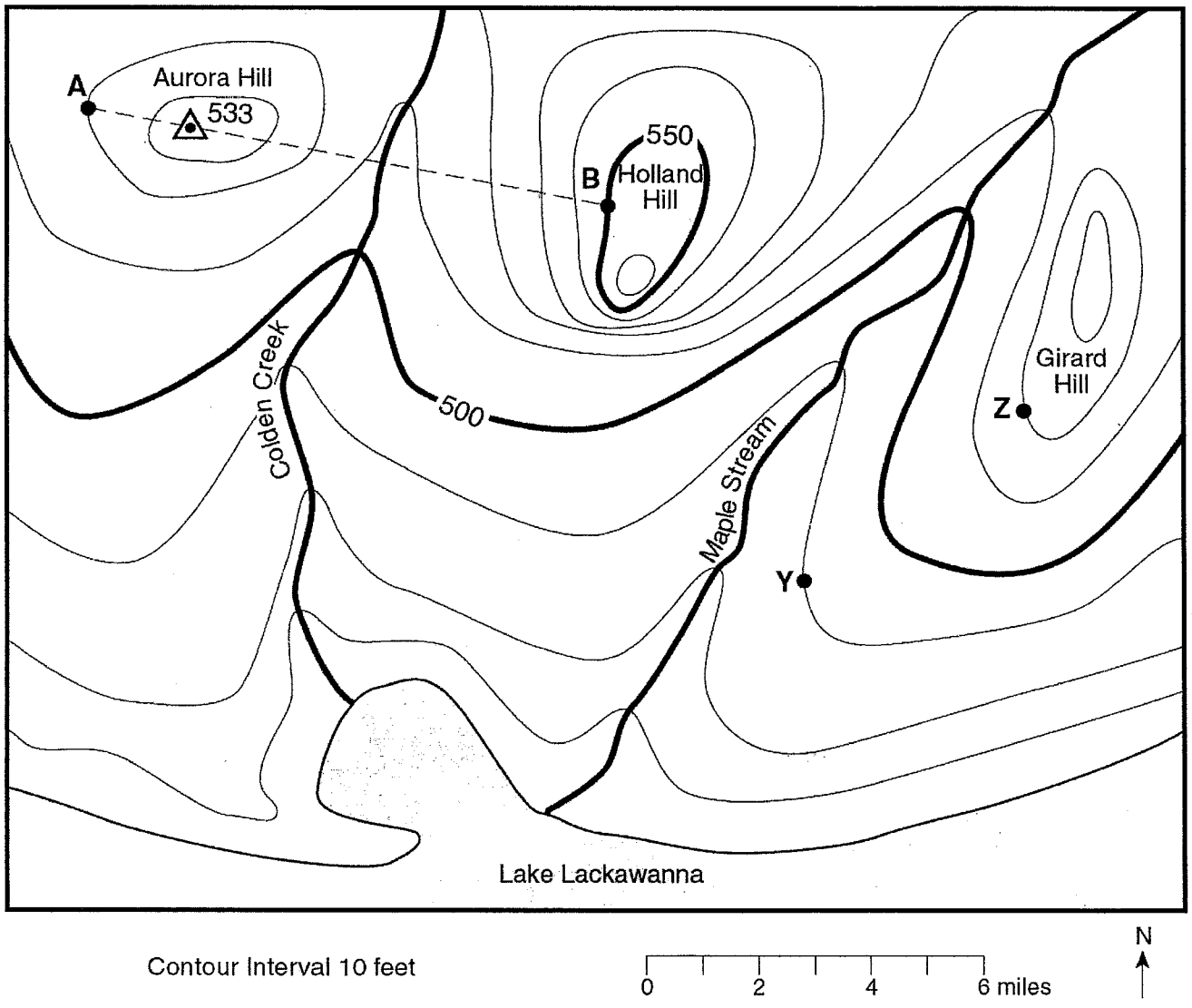
Topographic Map Worksheet #3

Base your answers to questions 51 through 54 on the topographic map below. Points *A, B, Y,* and *Z* are reference points on the topographic map. The symbol 533 represents the highest elevation on Aurora Hill.



51 State the general compass direction in which Maple Stream is flowing. [1] SW

52 Calculate the gradient between points *Y* and *Z* on the map, and label the answer with the correct units. [2]

$$\text{gradient} = \frac{\Delta \text{ in field value}}{\text{distance}}$$

$$\text{gradient} = \frac{520\text{ ft} - 490\text{ Ft}}{5\text{ mi}} \qquad \text{gradient} = 6\ \frac{\text{Ft}}{\text{mi}}$$

53 Describe the evidence shown on the map that indicates that the southern side of Holland Hill has the steepest slope. [1]

Contour lines are closest together

54 On the grid, construct a topographic profile from point *A* to point *B* by following the directions below.

a Plot the elevation along line *AB* by marking with an *X each* point where a contour line is crossed by line *AB*. Points *A* and *B* have been plotted for you. [2]

b Complete the profile by correctly connecting the plotted points with a smooth, curved line. [1]