

Graphing Homework # _____

Topographic maps are used to show the shape of the Earth's surface on a flat 2 dimensional map. This is possible by using contour lines which connect points of equal elevation above sea level. The spacing of lines on contour map shows how steep the slope of an area is. If the contour lines are very close together, the area is very steep. As the contour lines move farther apart, the slope or gradient of the land becomes more gradual.

One important aspect of a contour map is the contour interval. The contour interval is the change in elevation between lines that are next to each other. Most maps do not label every contour line so it is important that users can determine the interval between 2 labeled lines. This can be calculated by subtracting the elevation of 2 known lines, counting the spaces between those lines, and then dividing the difference in elevation by the number of spaces. If an area has a large change in elevation a larger contour interval should be used.

The data below represents the number of contour lines found on a map for an area that has a change in elevation of 499 feet. As you can see, the contour interval has a large impact on the number of lines found on the map!

What do contour lines do? _____

If contour lines are close together, what does that show? _____

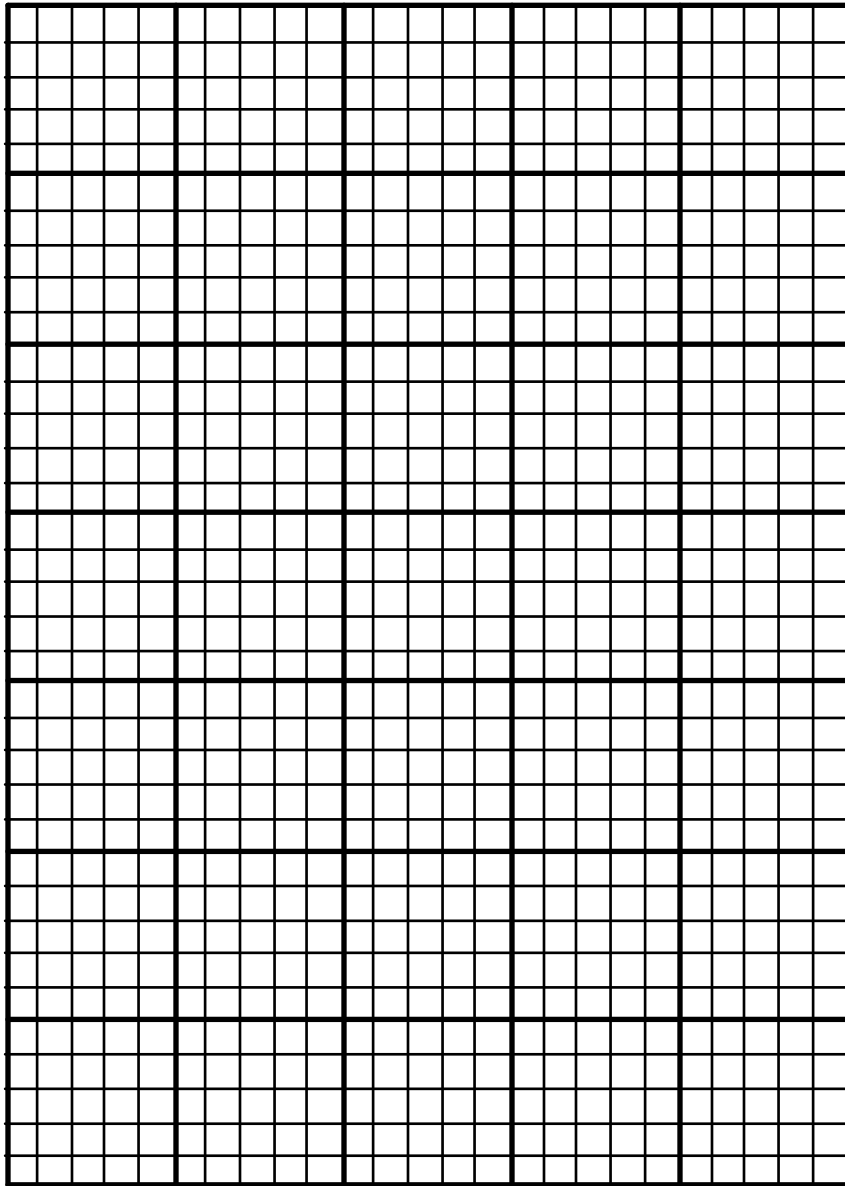
What is meant by the contour interval? _____

When would a large contour interval be used? _____

Contour Interval (feet)	Number of contour lines
1	500
2	250
5	100
10	50
20	25
25	20

Create a line graph from the data table on the Graph Paper on the back.

- create a uniform scale for Contour Interval on the x - axis (2 points)
- label the x - axis with both a label and a unit. (2 points)
- create a uniform scale for Number of contour lines on the y axis. (2 points)
- label the y - axis with both a label and a unit. (2 points)
- plot all six points on your graph (2 points)
- connect the points to draw your line (1 point)
- put an appropriate title on top of your graph. (1 point)



(2 pts)	x- axis	y - axis
Range		
Boxes		
Divide		
Round up		

Answer the questions below in Complete Sentences (2 points each)

1) As the contour interval increases, what happens to the number of contour lines?

2) If the contour interval was 15, how many contour lines would be needed?
(Use a highlighter to draw a line on the graph which shows how you estimated your answer)

3) If the map contained 200 contour lines, what would the contour interval be?
(Use a highlighter to draw a line on the graph which shows how you estimated your answer)

4) Describe the procedure for determining the contour interval used on a map.

5) What rule had to be followed when numbering depression contour lines?