

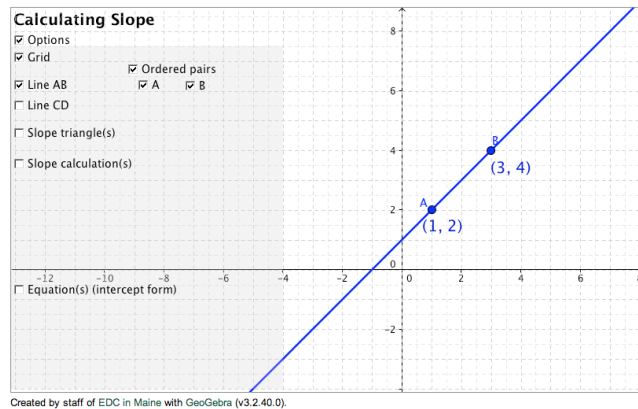
Name: _____

Class/Block: _____ Date: _____

Exploration: Slope

Part I. Launch the *Calculating Slope* applet

1. Check the following checkboxes
- *Options*
- *Ordered pairs (A&B)*
- *Slope Triangle*



2. Move points A and B so A=(1,2) and B=(3,4)

3. Look at the *Sample Line* provided when **Point A is at (1,2)** and **Point B is (3,4)**.

Click on the *Slope calculation* checkbox.

A. What is the value of the slope? Slope = _____

B. Refer to the slope calculation in the applet. How was the slope calculated from the two points?

4. Click on the *Show $\frac{\Delta y}{\Delta x}$* checkbox. Explain what appears on the graph.

5. Move Point A so it is now at (2,2) and Point B so it is now at (6,5). Fill in the blanks below:

$$\frac{\Delta y}{\Delta x} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}} = \boxed{}$$

6. Move Point A so it is now at (1,4) and Point B so it is now at (5,2). Fill in the blanks below:

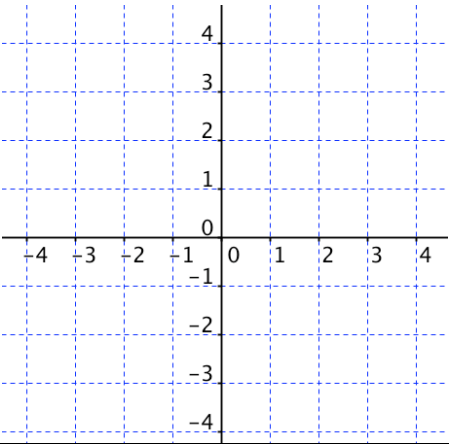
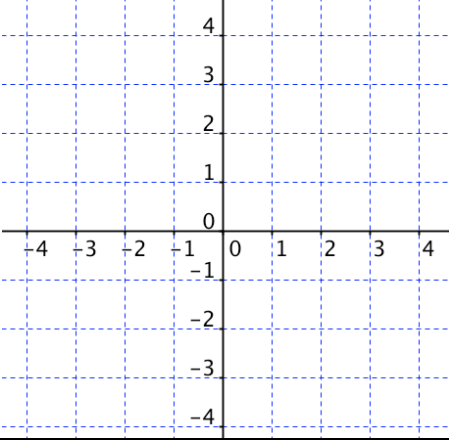
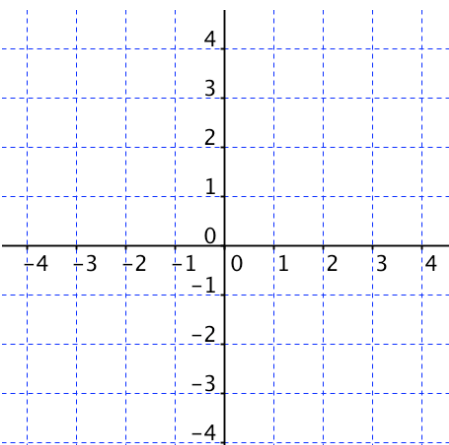
$$\frac{\Delta y}{\Delta x} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}} = \boxed{}$$

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Part II. Find the slope of the line given two points.

- Look at the points provided below. Calculate the slope without using the applet.
- Plot the points and draw the line on the grid. Label the change in y and change in x on the graph.
- Check the slope and graph using the applet.

#	Calculate the slope	Graph the line
7.	$A = (2, 2)$ $B = (3, 4)$ Slope _____	
8.	$A = (0, 1)$ $B = (4, 2)$ Slope _____	
9.	$A = (1, 4)$ $B = (4, 1)$ Slope _____	

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Part III. Compare Slope Using Points on a Line

Without using the applet, determine which pair of points represents the line with a greater slope. Explain your reasoning. (Use the graph to support your reasoning.) Check your answer using the applet.

#	Points on Line 1: Calculate Slope	Points on Line 2: Calculate Slope	Which line has a greater slope? (Justify)	Graph Lines
10.	A = (0, 0) B = (2, 2) Slope _____	C = (-1, 2) D = (1, 4) Slope _____		
11.	A = (1, 2) B = (4, 4) Slope _____	C = (2, 1) D = (4, 4) Slope _____		
12.	A = (-3, 2) B = (2, -3) Slope _____	C = (-3, 2) D = (1, 4) Slope _____		

