

Name: _____ Date: _____

Making Sense of Slope Activity Sheet

Open the Phet Simulation Graphing Lines. Open the *Slope* tab.

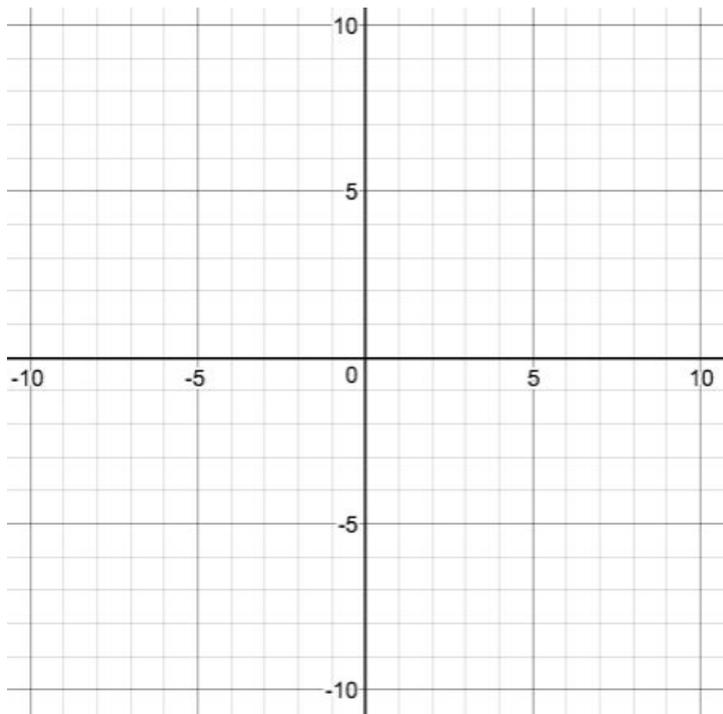
https://phet.colorado.edu/sims/html/graphing-lines/latest/graphing-lines_en.html

1. Place the two points in a way that creates a slope of $m = \frac{1}{2}$.

What strategy did you use to create that slope?

What is another strategy you could use?

2. Plot the points you chose in the sim on the graph below. Draw the **line** passing through those points.



3. Using the two points you graphed in #2, draw a triangle on your graph above showing the vertical and horizontal change from one point to another in the same method as in the sim. Label the sides of the triangles with their lengths. Click on "Save Line" in the Slope box.

4. Move the red and yellow points on the sim, keeping the slope of the line formed at $m = \frac{1}{2}$. Record your data in the table below. Find both positive and negative values for the vertical and horizontal differences.

Vertical difference between the points	Horizontal difference between the points

5. Move the red and yellow points to fit each of the given conditions. Your slope can vary.

Condition(s)	Vertical difference	Horizontal difference	Slope
Points as close as possible			
Points as far apart as possible			
Negative vertical difference			
Negative horizontal difference			
Positive slope			
Negative slope			
Slope=0			
Undefined slope			

What do you notice about the relationship of vertical difference, horizontal difference, and slope? What do you wonder about these relationships?