

Name: _____ Class: _____ Date: _____

Exploring Point-Slope Form of a Line

Learning Goals

- Write the equation of a line in point-slope form, given the graph
- Graph a line given an equation in point-slope form

1. **Explore** the point-slope screen for 5 minutes.
2. Manipulate parts of the **equation or graph** and describe the effects of each action.

Action	Action on...	How the equation is affected	How the graph is affected
Drag the pink point	<input type="checkbox"/> The equation <input checked="" type="checkbox"/> The graph		
	<input type="checkbox"/> The equation <input type="checkbox"/> The graph		
	<input type="checkbox"/> The equation <input type="checkbox"/> The graph		
	<input type="checkbox"/> The equation <input type="checkbox"/> The graph		
	<input type="checkbox"/> The equation <input type="checkbox"/> The graph		

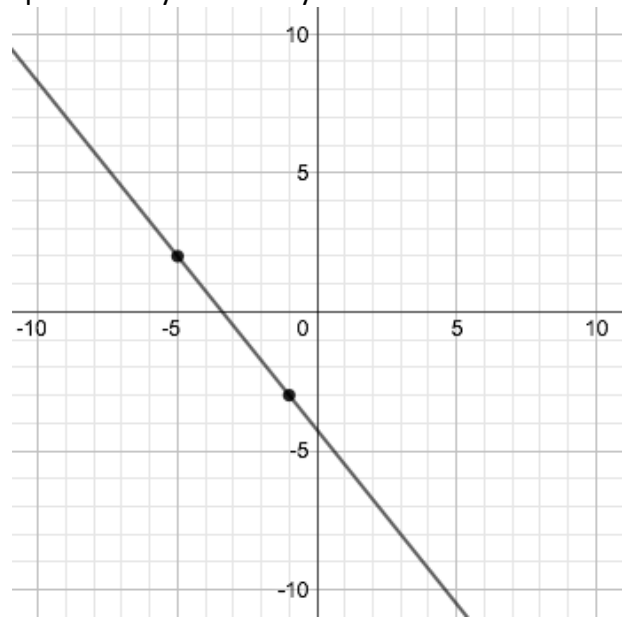
3. Describe how m in the equation $y - y_1 = m(x - x_1)$ relates to the graph.

4. Describe how x_1 and y_1 in the equation $y - y_1 = m(x - x_1)$ relate to the graph.

5. Complete the table below.

How can you...	Explain what you changed	What other changes did you notice?
Make a line steeper?		
Transform a line without changing the slope?		

6. Write the equation (in point-slope form) of the line below. Explain how you found your answer.



7. Describe how you would graph a line with the equation $(y - 3) = \frac{5}{2}(x + 4)$ and graph it on the grid provided.

