Agenda

- Homework:
  - Linear Equations: Point & Slope Worksheet
  - AM
- Materials:
  - Notebook
  - Whiteboard
  - Calculator (if needed)

- DO NOW
  - On the GRAPH part of your whiteboard:
    1. Sketch the point (-1, 2)
    2. Let's say that point is part of a LINEAR graph and the SLOPE is +3
    3. Graph the line

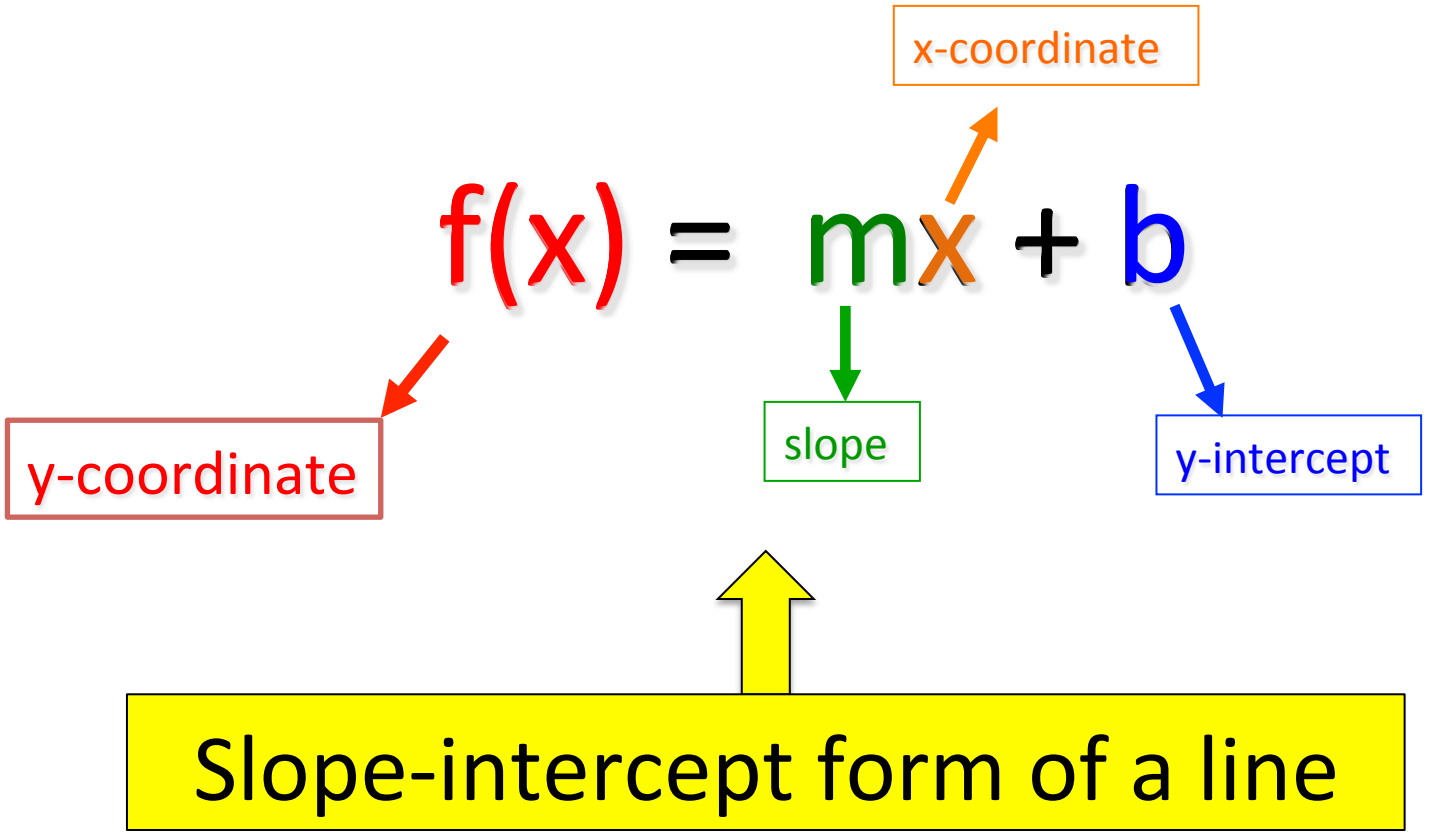
Set up Cornell Notes

- **Topic:** Linear Functions – Point Slope Equation of a Line
- **EQ:** How can we generate a linear function given the SLOPE and a POINT on the line?

Update Table of Contents

Date	Topic
11/23/15 (Pd 3) 11/24/15 (Pd 6)	Linear Functions – Point Slope Equation of a Line

What do we already know about linear equations?



$f(x) = mx + b$

- It's easy to find the equation if we're given the slope (m) an y-int (b). Just plug it in!

- What if you were given the slope, and ANY point on the line?

How can you use the slope and a point to find the symbolic representation of the function?

$$f(x) = mx + b$$

$$2 = 3(-1) + b$$

$$2 = -3 + b$$

$$+3 \qquad +3$$

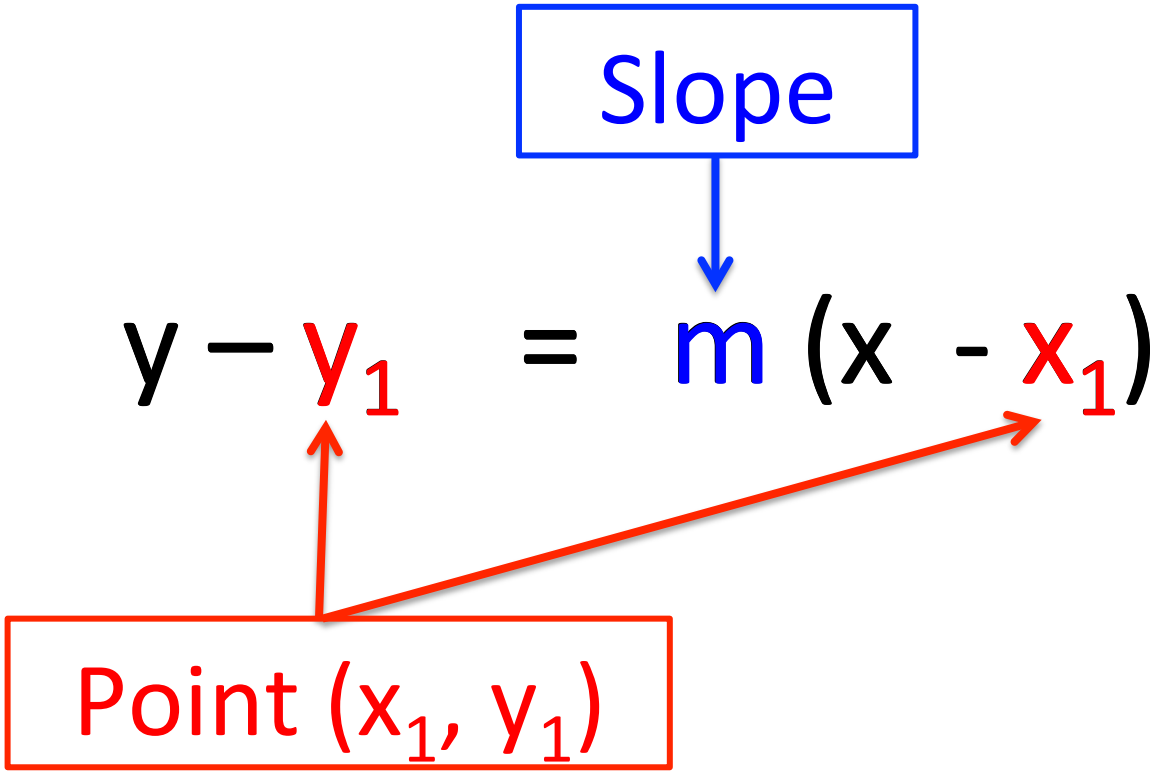
$$5 = b$$

$$f(x) = mx + b$$

$m = 3$

Point $(-1, 2)$

What is the Point-Slope Form equation of a line?



How do you find the equation of a line in point-slope form?

Find the equation of the line that has a slope of 3, and passes through the point (-1, 2)

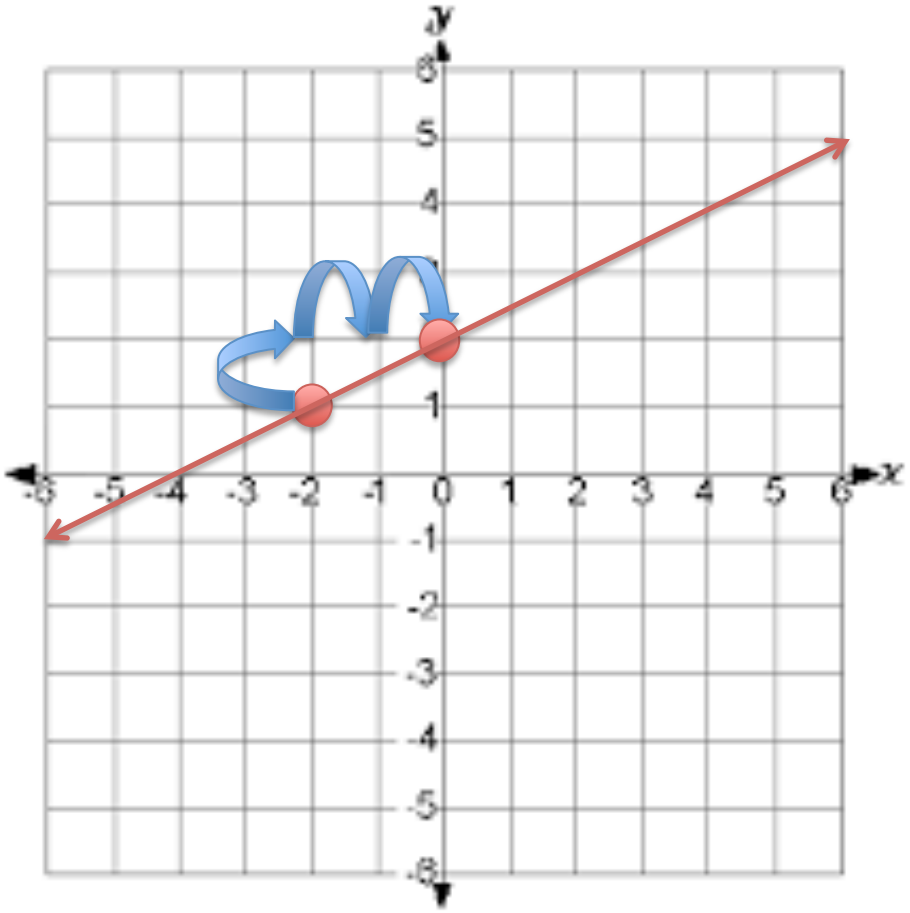
$$y - y_1 = m(x + x_1)$$

How do you graph a linear function in point-slope form?

- Example: Graph $y - 1 = \frac{1}{2}(x + 2)$

Point-Slope Form:

$y - y_1 = m(x - x_1)$



Point (x_1, y_1): (-2, 1)

Slope (m): ½