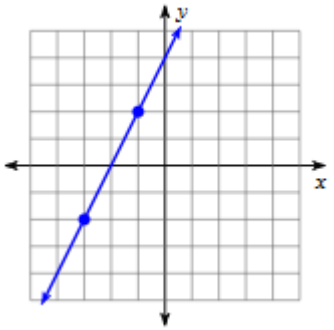
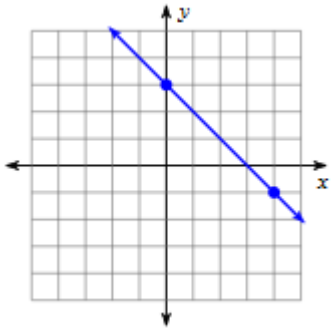
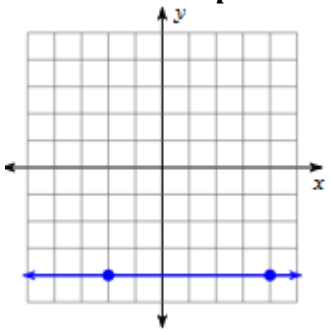
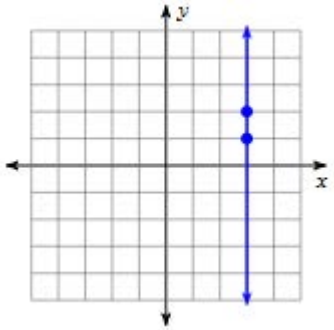
Equation of Lines

Positive Slope	*Negative Slope*	*Zero Slope*	*Undefined Slope*
			

SLOPE (m)

Write your ordered pairs into the template and follow it to calculate slope!

$$(x_1, y_1) \quad (x_2, y_2)$$

$$\frac{y_2 - y_1}{x_2 - x_1}$$

$$\text{Slope} = \frac{rise}{run}$$

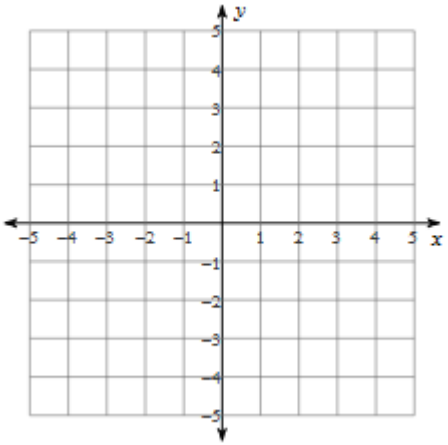
Slope Intercept Form

$$y = \underset{slope}{m}x + \underset{y-intercept}{b}$$

To graph, begin at b $(on\ y\ axis)$ and move with m $(rise\ over\ run)$

$b =$

$m =$



Finding the equation of a line given a POINT and the SLOPE

(x, y) m

Step 1: Plug in the x, y *and* m into slope intercept form.

$$y = m(x) + b$$

Step 2:
Simplify and solve for b

Step 3:
Write your slope m and y-intercept b into slope intercept form.

$$y = \underset{slope}{m}x + \underset{y-intercept}{b}$$

Finding the equation of a line given two POINTS

(x, y) (x, y)

Step 1: Solve for the slope m

$$\frac{y_2 - y_1}{x_2 - x_1}$$

Step 2: Plug in either (x, y) *and* m into slope intercept form.

$$y = m(x) + b$$

Step 3:
Simplify and solve for b

Step 4:
Write your slope m and y-intercept b into slope intercept form.

$$y = \underset{slope}{m}x + \underset{y-intercept}{b}$$