Graphing Linear Equations

To graph linear equations, make sure your equation is in slope-intercept form

Slope Intercept Form

$$y = mx + b$$

slope | y-int

slope

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{rise}{run}$$

y-intercept

Where line crosses the y axis
$(0,b)$

STEPS

1. Plot the _____
2. Use the _____ to plot more points

Using slope

Postive		Negative
up	$\frac{rise}{run}$	down
right		right

Other things to keep in mind:

Oh No! You ran out of Graph, now what?

1. Don't panic
2. Go back to the _____
3. Go in the _____ directions for slope
   Positive: down and left
   Negative: up and left

Not sure what the slope or y-int is?

$$y = x + 8 \rightarrow y = \frac{1}{1}x + 8$$

$$y = 2x \rightarrow y = \frac{2}{1}x + 0$$

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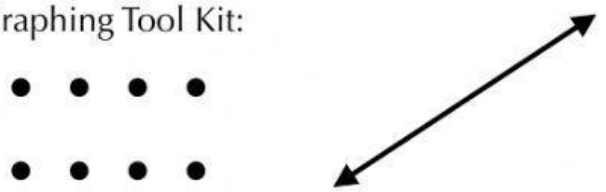
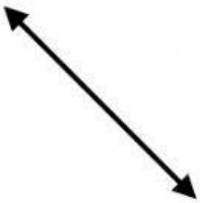
Examples:

Graphing Tool Kit:





Positive Slope:

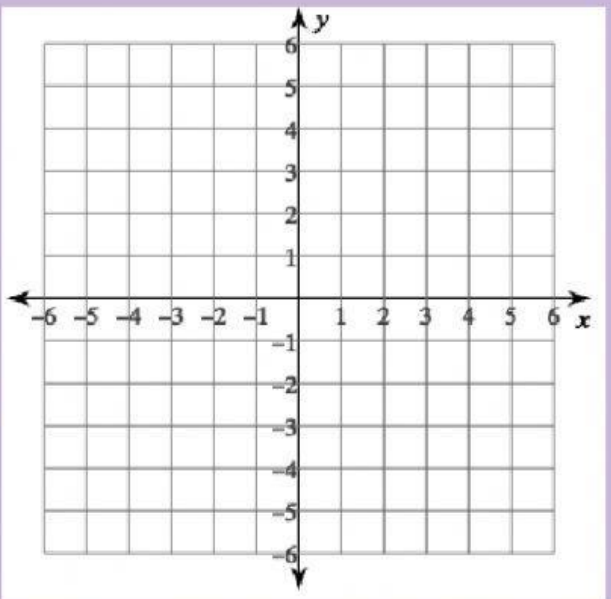
$$y = \frac{2}{3}x - 1$$

Step 1: Plot y-int

y-int = _____

Step 2: Plot more points

slope = ___ / ___



Negative Slope:

$$y = -x + 4$$

Step 1: Plot y-int

y-int = _____

Step 2: Plot more points

slope = ___ / ___