

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

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

y-intercept

Where line crosses the y axis
(0,b)

STEPS

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

Using slope

Positive

Negative

up

←

rise

→

down

right

←

run

→

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?

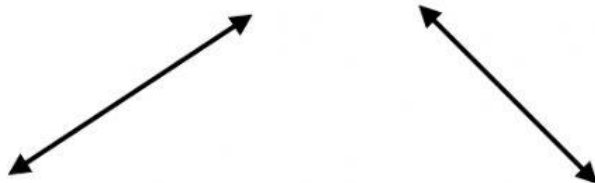
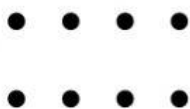
$$y = x + 8 \rightarrow y = \frac{1}{1}x + 8$$

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

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Examples:

Graphing Tool Kit:



Positive Slope:

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

Step 1:

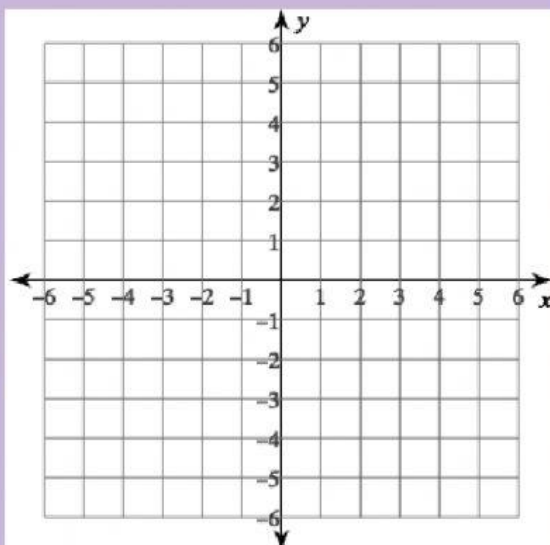
Plot y-int

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 = _____

