

Warm-Up

Reduce and Simplify

$$\frac{9}{12} = \frac{3}{4}$$

$$\frac{6x - 2x}{15 - 5} = \frac{4x}{10}$$

$$\frac{2x}{5}$$

Solve for Y

Solve for y

$$7y + 9 = \frac{2}{3}(x - 6)$$

$$7y + 9 = \frac{2}{3}x - 4$$

$$\frac{7y}{7} = \frac{\frac{2}{3}x - 13}{7}$$

$$y = \frac{2}{21}x - \frac{13}{7}$$

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5-0 Review of Linear Equations: Graphing & Writing Equations

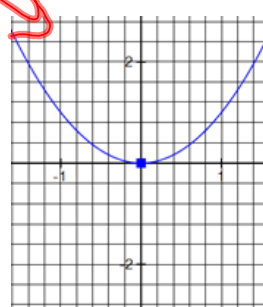
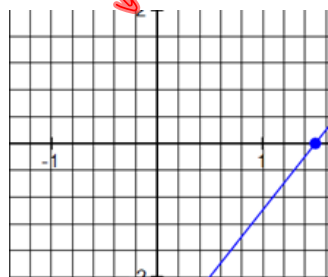
Objective: I can graph linear equations.

Objective: I can write a linear equation from 2 points.

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Linear equation: an equation that makes a straight line when graphed

Linear or Not Linear? Why?



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Linear Equations cont.

What do Linear equations have?

slope and intercepts

What form do we write linear equations in to graph them? slope-intercept form ($y=mx+b$)

m = slope

b = y-intercept

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How to find slope:

$$(x_1, y_1) \text{ \& } (x_2, y_2)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} \quad \left(\frac{\text{rise}}{\text{run}} \right)$$

How to find y-intercept:

- plug 0 in for x and solve for y

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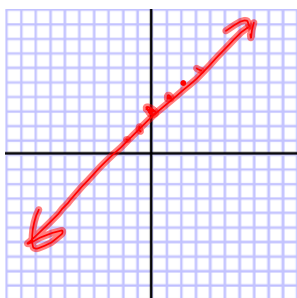
How to graph Linear Functions

$$y = x + 3$$

$$f(x) = x + 3$$

slope: 1 $\frac{1}{1}$

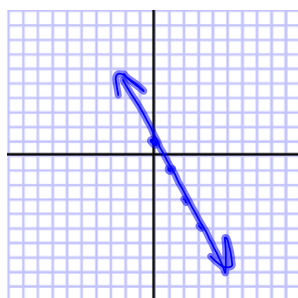
y-int.: 3



$$g(x) = -2x + 1$$

slope: -2 $-\frac{2}{1}$

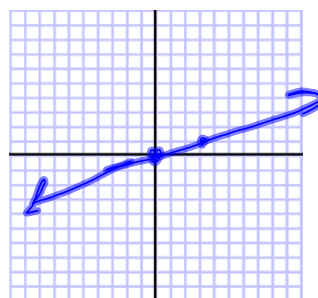
y-int.: 1



$$h(x) = \frac{1}{3}x$$

slope: $\frac{1}{3}$

y-int.: 0



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Write the equation of the line that passes through the given points:

$$(1, 4) \text{ \& } (-2, 5)$$

Use point-slope form: $y - y_1 = m(x - x_1)$

$$m \quad y - 4 = -\frac{1}{3}(x - 1)$$

$$y - 4 = -\frac{1}{3}x + \frac{1}{3}$$

$$\begin{array}{r} +4 \qquad \qquad \qquad +4 \\ \hline \end{array}$$

$$y = -\frac{1}{3}x + \frac{13}{3}$$

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Write the equation of the line that passes through the points.

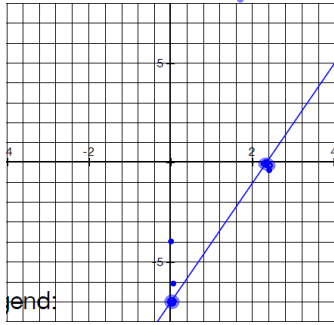
$$(2, 3) \text{ \& } (-1, 1)$$

$$(5, 2) \text{ \& } (-2, 2)$$

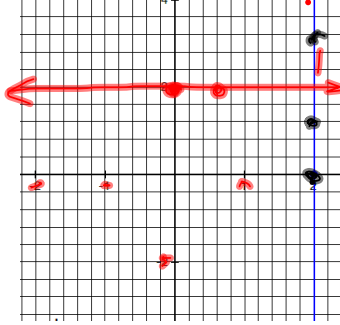
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Given the graph, write the linear equation.

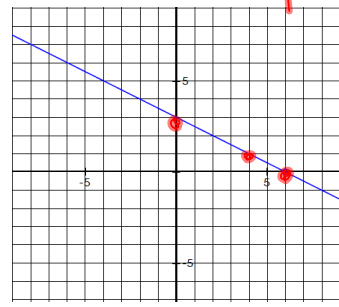
$$y = mx + b$$



$$y = \frac{7}{6}x - 7$$



$$\frac{3}{0} \quad x = 10$$



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

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