Simplify

$2(x + 3y) - 4(3x - 5y)$

$= 2x + 6y - 12x + 20y$

$= -10x + 26y$

What do you remember about Lines?

$y = mx + b$

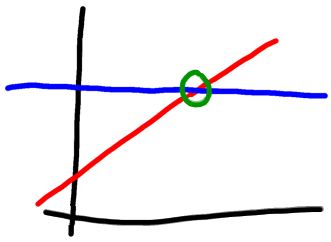
Slope

"Steepness"

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

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

Initial Value or y-intercept



x and y intercepts

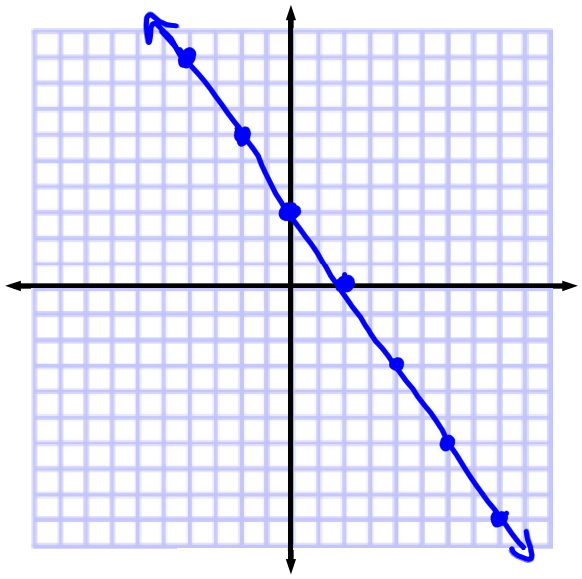
x	y	First Diff
0	-3	
1	0	0-(-3)=3
2	3	3-0=3
3	6	6-3=3
4	9	

Graphing y = mx + b

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

slope = $\frac{\text{rise}}{\text{run}}$ $\left(\frac{-3}{2}\right)$

y-int



1. Put a point at the y-int
2. Use the slope to get other points

Converting to y = mx + b

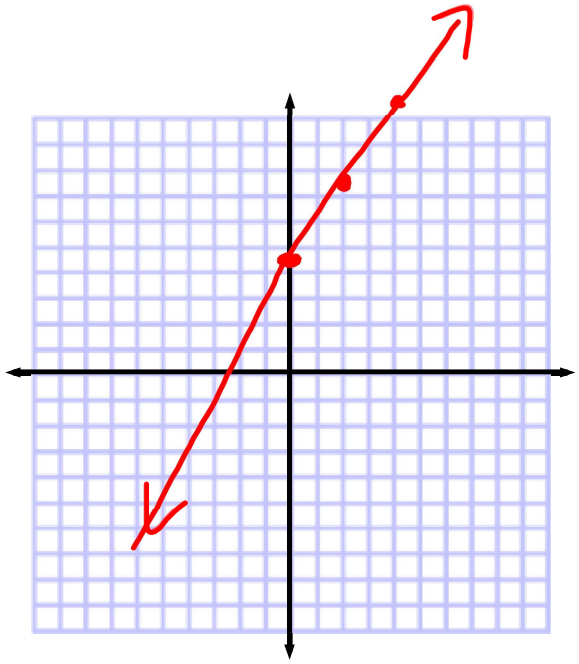
$3x - 2y + 9 = 0$

$+2y \qquad +2y$

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

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

slope y-int



x and y intercepts

$3x + 5y = 10$

y-int ($x = 0$)

$3(0) + 5y = 10$

$\frac{5y}{5} = \frac{10}{5}$

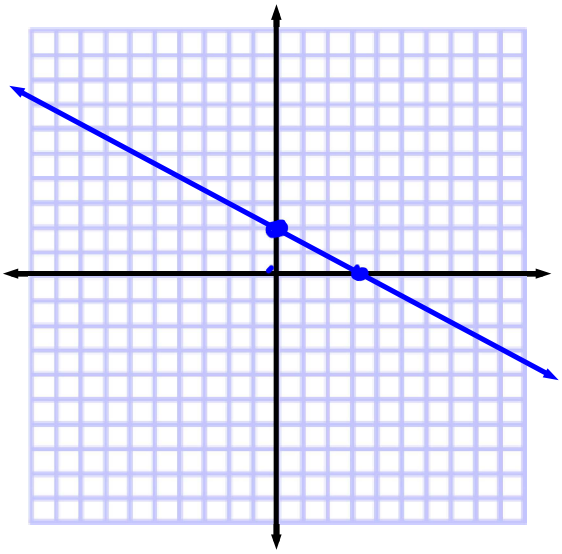
$y = 2$

x-int ($y = 0$)

$\frac{3x}{3} + 5(0) = \frac{10}{3}$

$x = 3.3$

x	y
0	
	0



DESMOS

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