4.7. Graphing Lines with Slope.

Nov.16, 2006

Slope-Intercept Form

$$y = mx + b$$

m: slope

$(0, b)$: y-int.

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

Recall: $2x - y = -3$ → Standard form

$-2x \quad -2x$

$-y = -2x - 3$

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

Get y by itself

$y = 2x + 3$

$y = mx + b$

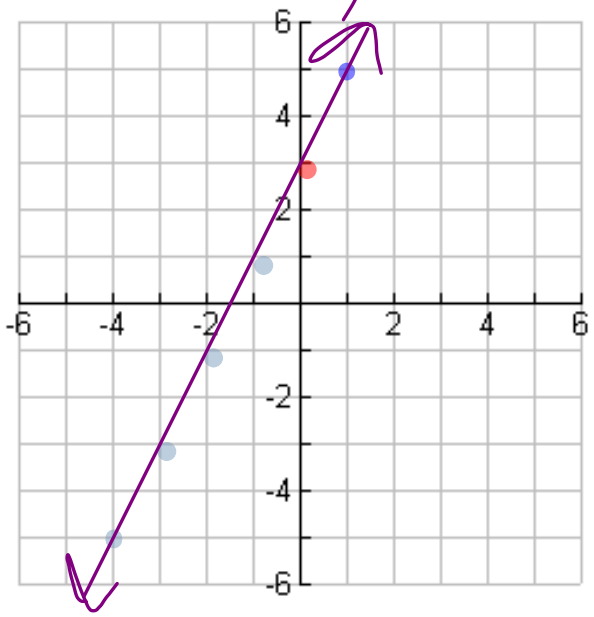
$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$

$m = \text{slope} = \frac{\text{rise}}{\text{run}} = 2 = \frac{2}{1}$

up 2 / Right 1

$b = y\text{-int} = 3 \Rightarrow (0, 3)$

$y = 2x + 3$



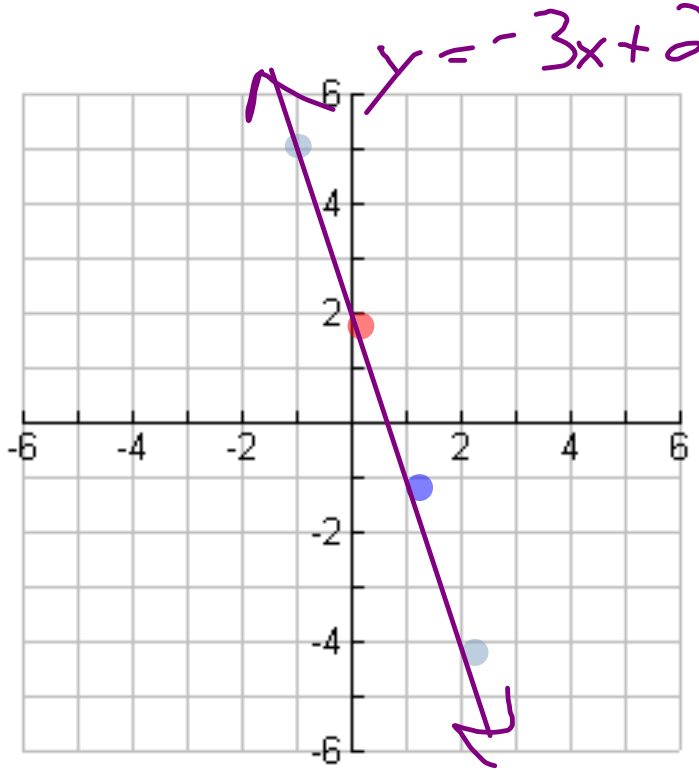
Graph: $y = -3x + 2$

$y = mx + b$

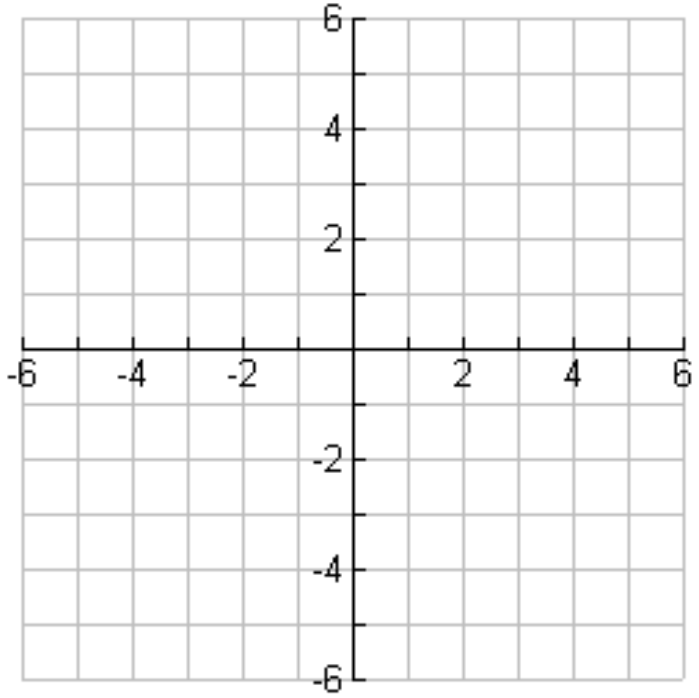
$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$

$m = \text{slope} = \frac{\text{rise}}{\text{run}} = -3 = \frac{-3}{1}$ (Down 3 / Right 1)

$b = y\text{-int} = 2 \Rightarrow (0, 2)$



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



O.T.L.

① Pg 246 : 1–10 (all)

11, 12, 14, 15, 35, 37, 39, 41

Same Coord. Plane.