

# 4.7. Graphing Lines with Slope.

Nov. 16, 2006

## Slope-Intercept Form

$$y = mx + b$$

Slope  $\rightarrow$   $m$

$(0, b)$   
 $\rightarrow$   $b$   
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

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

Get y by itself

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

Identify

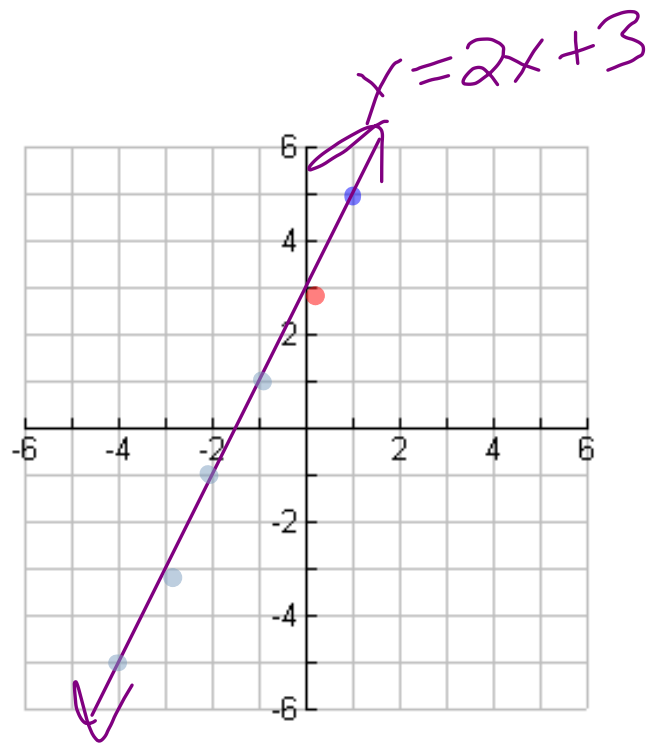
$$y = 2x + 3$$
$$y = mx + b$$

Direction of slope

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

UP 2  
Right 1

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



Graph:  $y = -3x + 2$

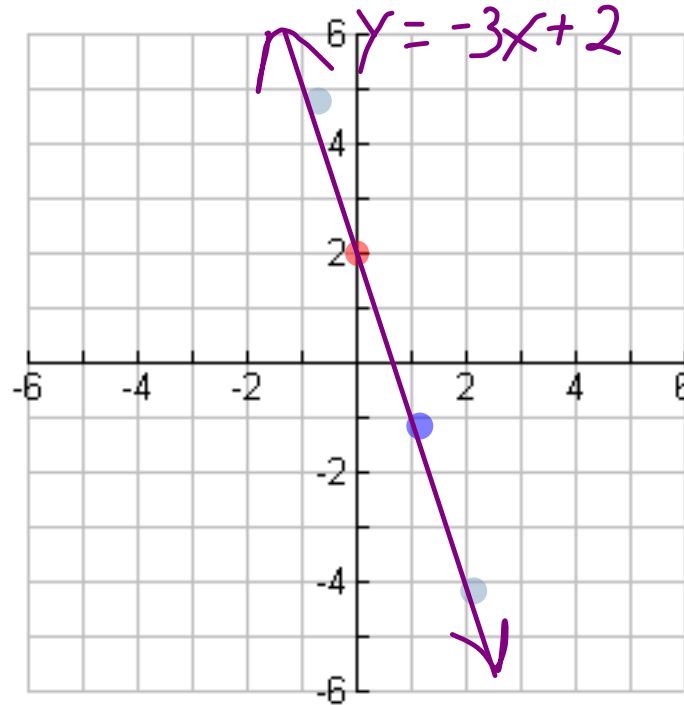
$$y = mx + b$$

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

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = -3 = \frac{-3}{1}$$

Down 3  
Right 1

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



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

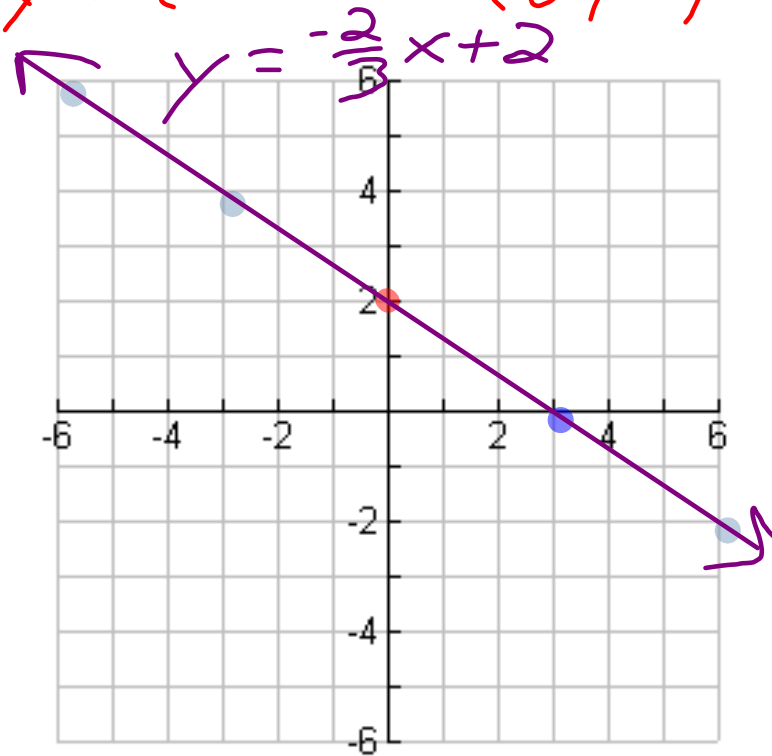
$y = mx + b$

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

$m = \text{slope} = \frac{\text{rise}}{\text{run}} = -\frac{2}{3}$

Down 2  
Right 3

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



O.T.L.

① pg 246 : 1-10 (all)

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

Same

Coord. Plane.