Slope-Intercept Form

Linear equation used to represent a straight line on a graph

$$y = mx + b$$

Writing Equations in Slope-Intercept Form

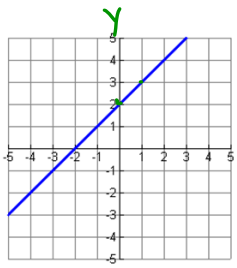
$y = mx + b$

$b = 2$, $m = 1$, $y = 1x + 2$

Slope-Intercept Form:

m represents Slope

b represents y intercept (where the graph crosses the y-axis)



Writing Equations in Slope-Intercept Form

Find the slope and the y-intercept of the following.

$y = -3x + 5$ $y = \frac{1}{2}x - 10$

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

b = 5 b = -10

Writing Equations in Slope-Intercept Form

Write the equation of a line whose slope is -2 and the y-intercept is -5.

$y = mx + b$

$y = -2x + (-5)$

$y = -2x - 5$

Writing Equations in Slope-Intercept Form

Write the equation of a line whose slope is $\frac{3}{4}$ and the y-intercept is 0.

$y = mx + b$

$y = \frac{3}{4}x + 0$

Writing Equations in Slope-Intercept Form

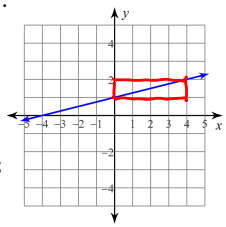
Write the equation of a line whose slope is -1 and y-intercept is -3.

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

$y = -1x - 3$

Writing Equations in Slope-Intercept Form

Write the slope-intercept form of the equations graphed below.

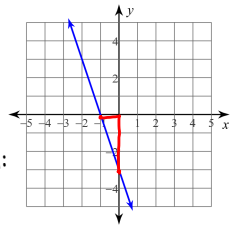


m = $\frac{rise}{run} = \frac{1}{4}$ $\frac{-1}{-4}$

b = 1

Slope-Intercept Form:

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



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

b = -3

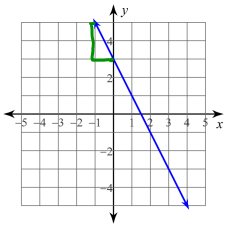
Slope-Intercept Form:

$y = -3x + (-3)$

$y = -3x - 3$

Writing Equations in Slope-Intercept Form

Write the slope-intercept form of the equations graphed below.

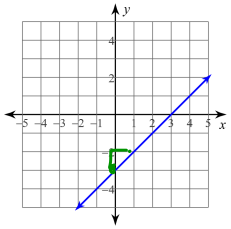


m = $\frac{-4}{2} = -2$

b = 3

Slope-Intercept Form:

$y = -2x + 3$



m = $\frac{1}{1}$

b = -3

Slope-Intercept Form:

$y = 1x - 3$

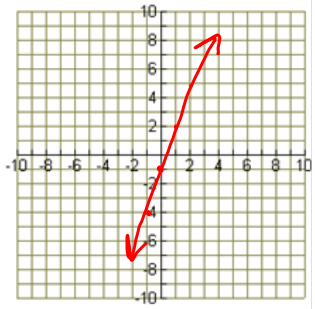
Graphing Equations in Slope-Intercept Form

Steps: 1. Plot the y-intercept.
2. Use the slope (rise/run) to find the second point.
3. Draw the line with arrows.

Graph the equation using the slope and y-intercept.

$y = 3x - 1$

$\frac{rise}{run} = \frac{3}{1}$ $\frac{-3}{-1}$

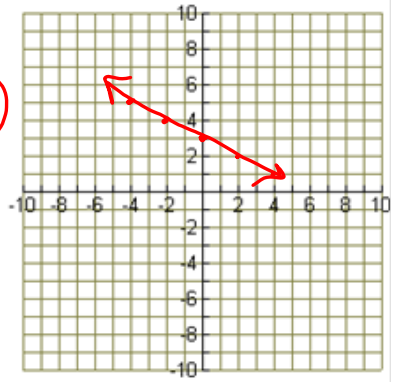


Graphing Equations in Slope-Intercept Form

Graph the equation below using the slope and y-intercept.

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

$\frac{-1}{2}$ or $\frac{1}{-2}$

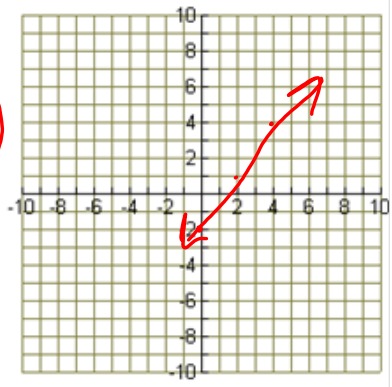


Graphing Equations in Slope-Intercept Form

Graph the equation below using the slope and y-intercept.

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

b

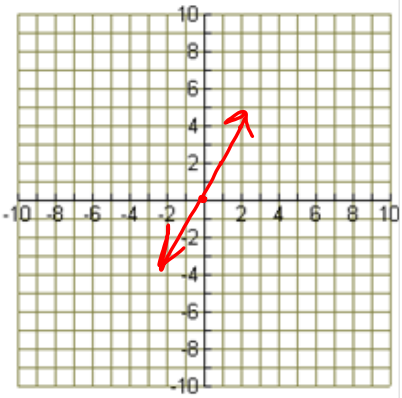


Graphing Equations in Slope-Intercept Form

Graph the equation below using the slope and y-intercept.

$y = 2x$

$\frac{2}{1}$



$(-5,-8)$ and $(2,4)$

x_1, y_1 x_2, y_2

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

$\frac{4-(-8)}{-2-(-5)}$ $\frac{4+8}{-}$

Attachments

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