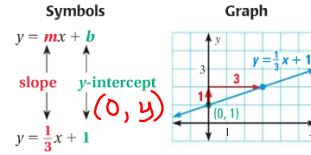


Algebra 1

6.1 part 1 Graphing using Slope-Intercept Form

Finding the Slope and y-Intercept of a Line



Ex) Identify the slope and y-intercept of the line with the given equation.

1. $y = 6x - 2$
 $y = mx + b$

$m = 6$
 $b = -2$

2. $-x + 3y = 9$

$3y = \frac{1}{3}x + \frac{9}{3}$
 $y = -\frac{1}{3}x + 3$

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

Warm - Up

Solve for y as a function of x. (No decimals)

a) $5x + y = 7$ b) $-3x + 3y = 12$
 $y = -5x + 7$ $y = x + 4$
 $y = \frac{3}{3}x + \frac{12}{3}$

c) $7x - 2y = 10$ d) $-5x - y = 15$
 $y = -\frac{7}{2}x + 5$ $y = -5x - 15$

$y = -\frac{7}{2}x + 5$ $y = -5x - 15$

$y = -\frac{7}{2}x + 5$ $y = -5x - 15$

Graph an equation using slope-intercept form

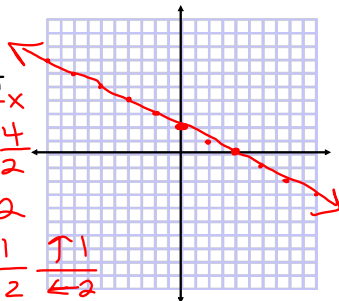
1. solve for y
2. put dot on y-intercept
3. use slope = $\frac{\text{rise}}{\text{run}} = \frac{y}{x}$ to get 2nd pt.
4. Connect dots

ex) Graph $x + 2y = 4$

$2y = -x + 4$
 $y = -\frac{1}{2}x + 2$

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

$m = -\frac{1}{2}$ rise $\downarrow 1$ run $\rightarrow 2$

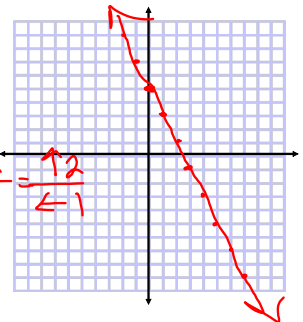


Graph an equation using slope-intercept form

$y = -2x + 5$

$b = 5$

$m = -2$ rise $\downarrow 2$ run $\rightarrow 1$

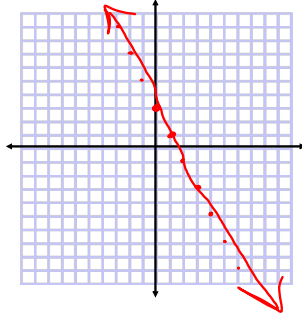


Try this: Graph $2x + y = 3$

$$y = -2x + 3$$

$$b = 3$$

$$m = \frac{-2}{1} \begin{matrix} \downarrow 2 \\ \rightarrow 1 \end{matrix}$$



Graphing Horizontal and Vertical Lines

horizontal line
What does an upside-down **h** look like?

$$y = \text{any number}$$

It's always a **horizontal line**.



Zero slope

Vertical line

What does an upside-down and right-side up **V** look like?

$$x = \text{any number}$$

It's always a **vertical line**.

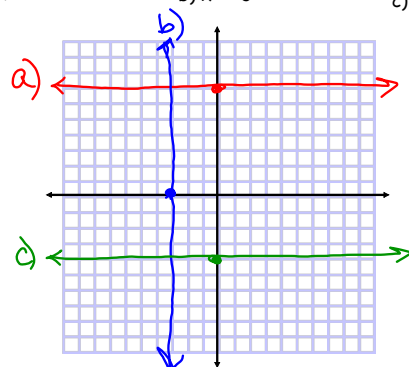
Undefined slope

Graph the following

a) $y = 7$

b) $x = -3$

c) $y = -4$



Homework:

pg 200; 15-22