

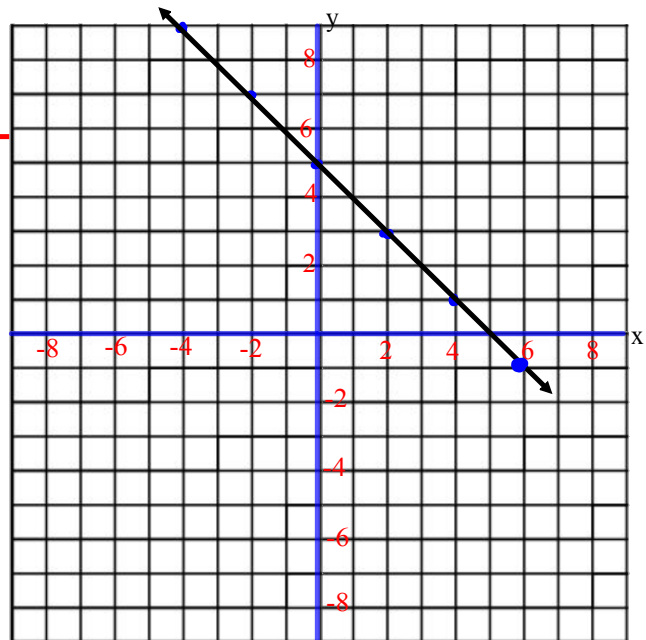


You try

Two numbers have a sum of 5

Write an equation: $x + y = 5$ $y = -x + 5$

First Integer, x	Second integer, y
-6	11
-4	9
-2	7
0	5
2	3
4	1
6	-1



Is this a straight line?

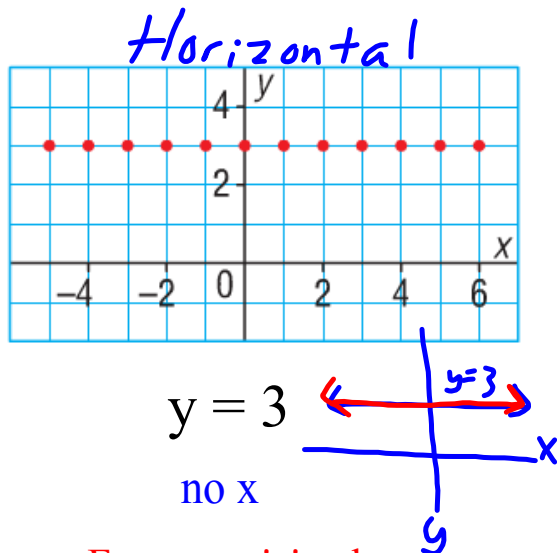
Both variables on the left side of the equation

$$ax + by = c$$

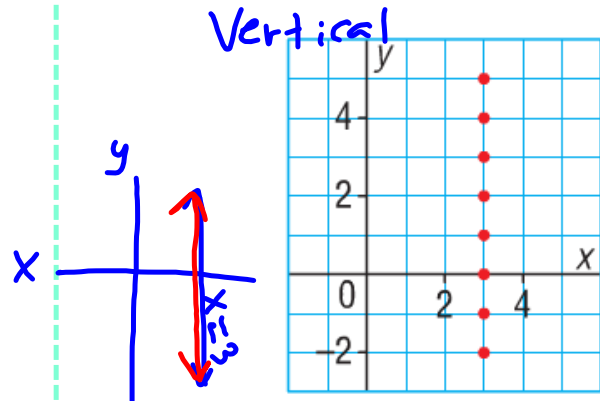
a, b, c are just #

This is just another way to write the equation of a linear relation.

Horizontal vs. Vertical



For every 'x' value y will always equal 3

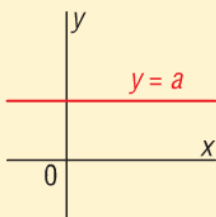


$x = 3$

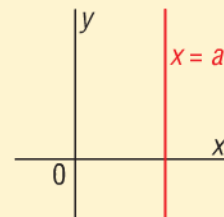
no y

For every 'y' value x will always equal 3

The graph of the equation $y = a$, where a is a constant, is a horizontal line. Every point on the graph has a y -coordinate of a .



The graph of the equation $x = a$, where a is a constant, is a vertical line. Every point on the graph has an x -coordinate of a .





For each equation below:

i) Graph the equation

ii) Describe the graph.



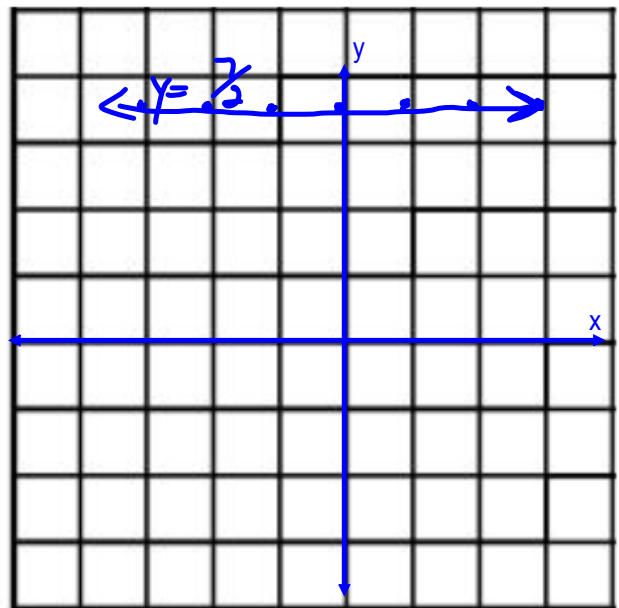
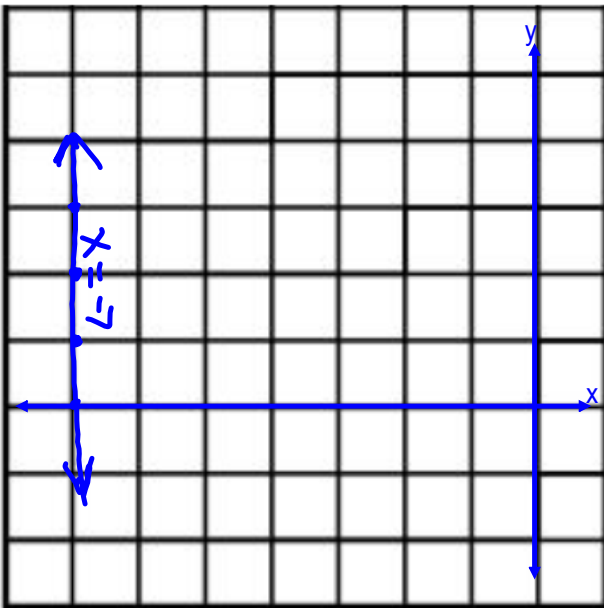
a) $x + 7 = 0$

$$x = -7$$

b) $2y = 7$

$$\frac{2y}{2} = \frac{7}{2}$$

$$y = \frac{7}{2}$$



Graphing an Equation in the Form $ax + by = c$

For the equation $5x - 3y = 12$:

a) Make a table of values for $x = -6, 0, 6$

Rearrange for $y =$

$$5x - 3y = 12$$

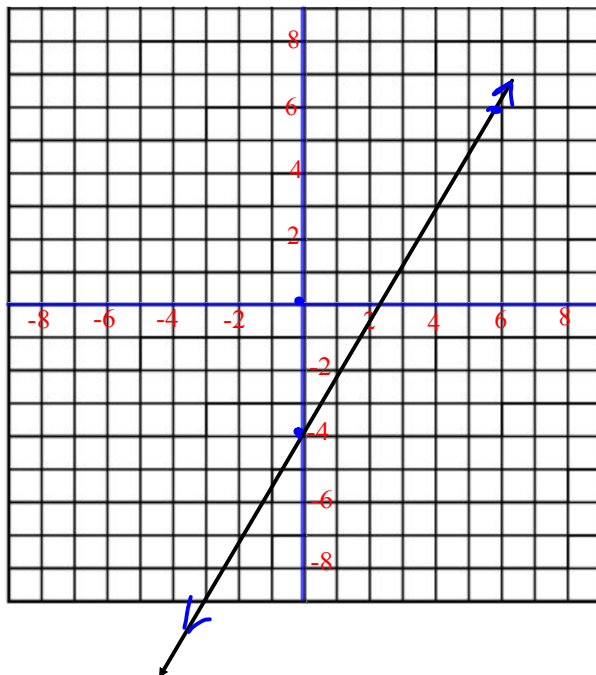
$$\begin{aligned} 5x - 3y &= 12 \\ -3y &= -5x + 12 \\ \frac{-3y}{-3} &= \frac{-5x + 12}{-3} \\ y &= \frac{5x}{3} - 4 \end{aligned}$$

$$y = \frac{5x}{3} - 4$$

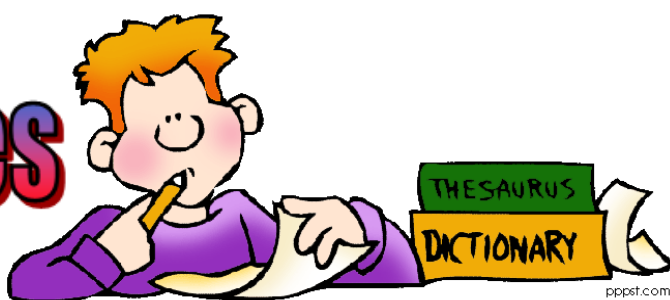
sub in $x = -6$	sub in $x = 0$	sub in $x = 6$
$y = \frac{5(-6)}{3} - 4$	$y = \frac{5(0)}{3} - 4$	$y = \frac{5(6)}{3} - 4$
$y = \frac{-30}{3} - 4$	$y = \frac{0}{3} - 4$	$y = \frac{30}{3} - 4$
$y = -10 - 4$	$y = 0 - 4$	$y = 10 - 4$
$y = -14$	$y = -4$	$y = 6$

X	Y
-6	-14
0	-4
6	6

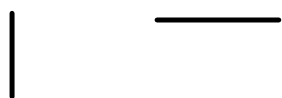
b) Graph the equation



Oblique Lines



An oblique line can be diagonal, sloping or slanted. It is not vertical, or horizontal



Examples: $y=2$ Horizontal \longleftrightarrow

$2x+3y=7$ Oblique \swarrow

$2x=8$ Vertical \updownarrow



Class/Homework



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