You try

Two numbers have a sum of 5

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

$y = 5 - x$

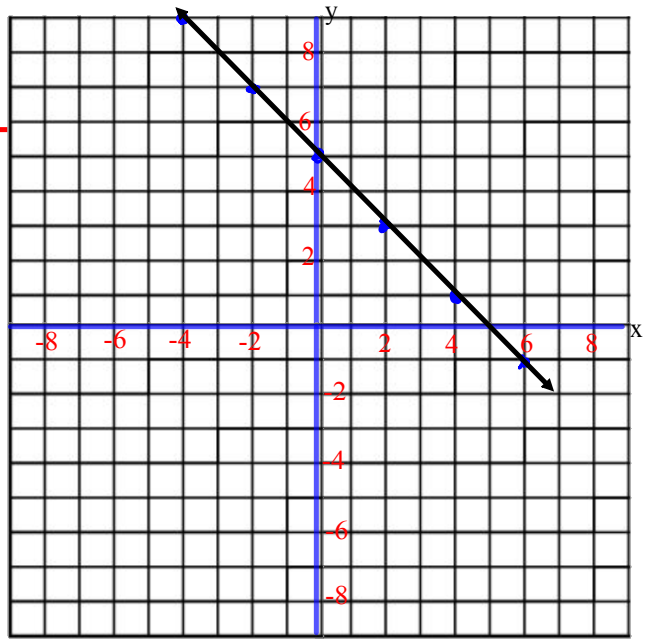
$5-(-2)$
$5+2$

$5-(-6)$
$5+6$

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

+2 +2 +2 +2 +2 +2

-2 -2 -2 -2 -2 -2



Is this a straight line?

Yes

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

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.

Standard form of an equation

$$Ax + By = C$$

A, B and C are numbers

Example

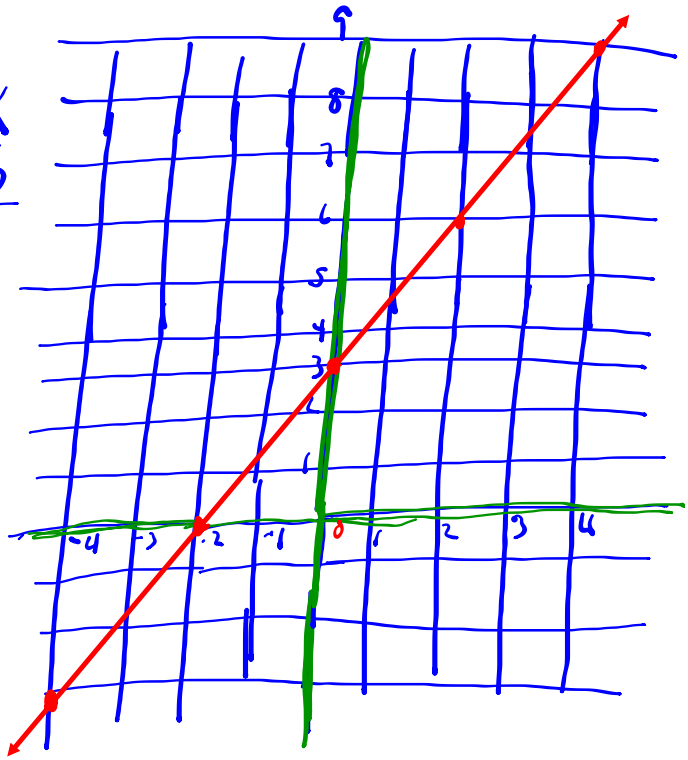
$3x + 2y = 6$

$3x - 2y = -6$

$\frac{-2y}{-2} = \frac{-6}{-2} - \frac{3x}{-2}$

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

x	y	
−4	−3	+3
−2	0	+3
0	3	+3
2	6	+3
4	9	+3



Problems with the homework...

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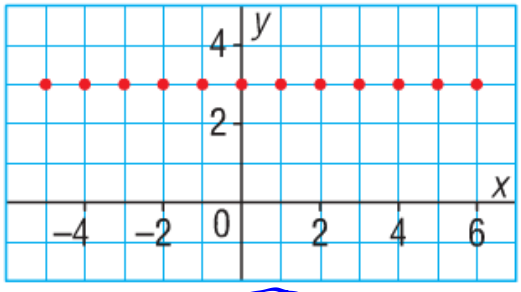
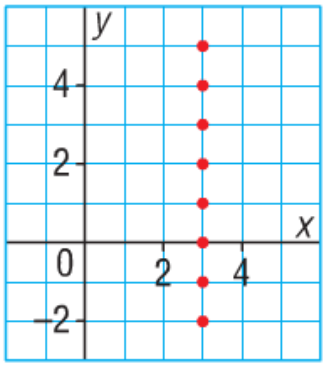
Horizontal vs. Vertical



y = 3

no x

For every 'x' value y will always equal 3

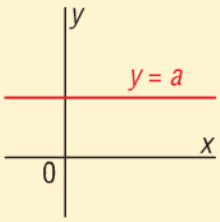


x = 3

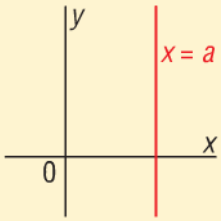
no y

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.



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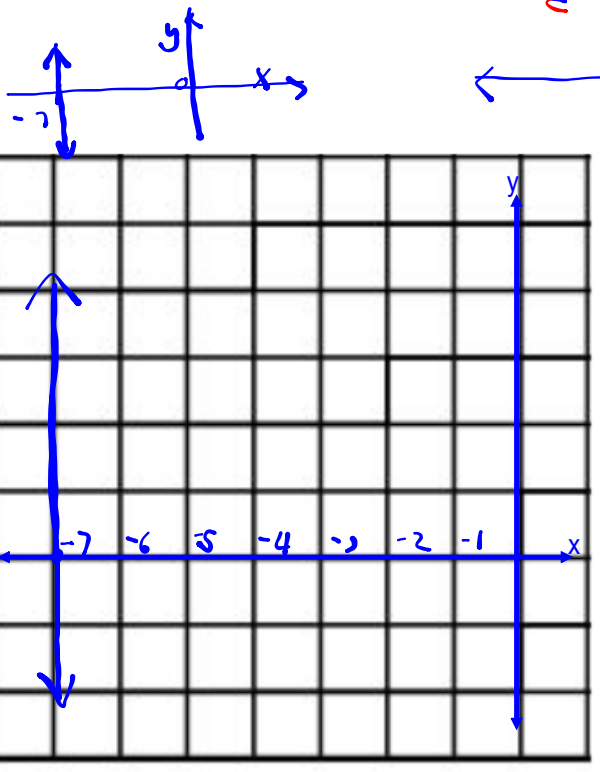
For each equation below:
i) Graph the equation
ii) Describe the graph.

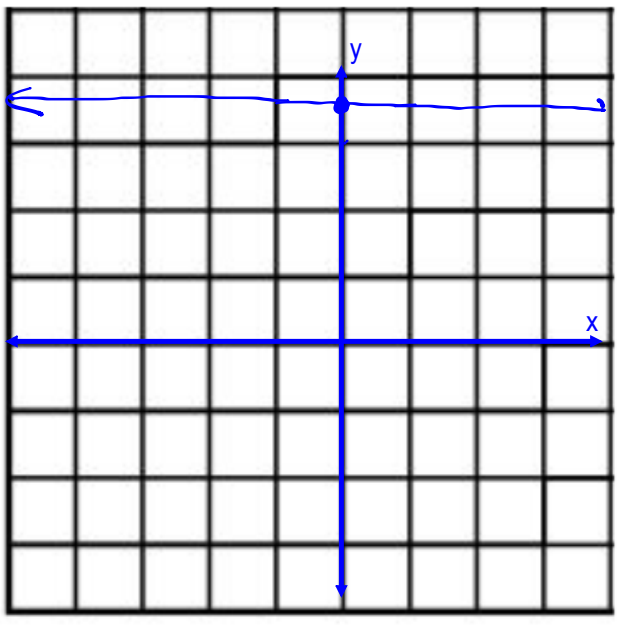
a) $x + 7 = 0$

$x = -7$



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

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



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 =

$5x - 3y = 12$

$\frac{-3y}{-3} = \frac{12}{-3} - \frac{5x}{-3}$

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

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

sub in x= -6

$y = \frac{5(-6) - 4}{3}$

y =

y =

y =

sub in x= 0

y =

y =

y =

sub in x= 6

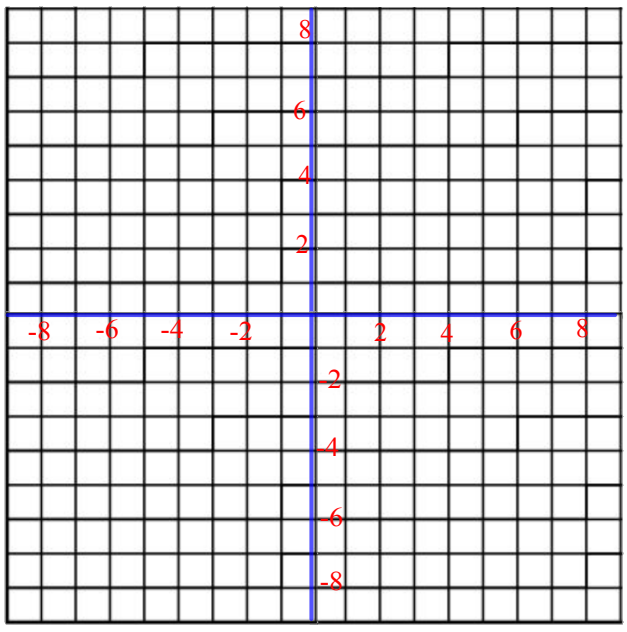
y =

y =

y =

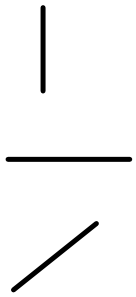
X	Y
-6	
0	
6	

b) Graph the equation



Oblique Lines

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



Examples: $y = 2$

$2x + 3y = 7$

$2x = 8$

Class/Homework

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4 TO # 15