

Name: _____

Practice QUIZ!

Graph on the same grid

a) $y = -2x - 3$

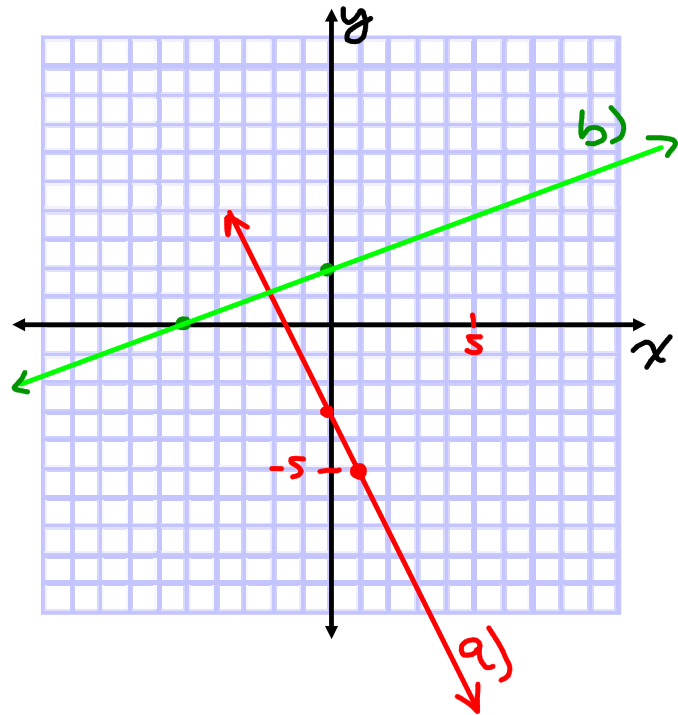
$b = -3$

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

b) $2x - 5y = -10$

y-int
 $-5y = -10$
 $y = 2$

x-int
 $2x = -10$
 $x = -5$



Finished early? Convince me that your graphs are correct!

1.2 Solving Linear Systems by Graphing

A system of linear equations is a group of two or more linear equations.

The solution to a system is any point that **satisfies BOTH** (or all) equations in the system. *The solution is the point of intersection.*

To solve systems by graphing:

1. Graph each line on the same set of axes.
2. Estimate the point of intersection.
3. Check that your estimation satisfies both equations (ie. check that $LS=RS$ for **both**).

Ex. 1 At Carp Fair, Sam bought 5 doughnuts and 3 candy apples for \$7.75. Rowan bought 8 doughnuts and 2 candy apples for \$7.50.

Mr. Lavergne says candy apples are \$1.50 each and doughnuts are \$0.75 each. Ms. Croteau says that the doughnuts were \$0.50 and candy apples were \$1.75 each. Who is right?

Let d be the cost of doughnuts,

Let a be the cost of candy apples

$$\textcircled{1} 5d + 3a = 7.75$$

$$\textcircled{2} 8d + 2a = 7.50$$

Lavergne

$$a = 1.50$$

$$d = 0.75$$

$$\textcircled{1} 5(0.75) + 3(1.50) = 7.75$$

$$\times 8.25 = 7.75$$

$$LS \neq RS$$

Croteau

$$a = 1.75$$

$$d = 0.50$$

$$\textcircled{1} 5(0.5) + 3(1.75) = 7.75$$

$$\checkmark 7.75 = 7.75$$

$$LS = RS$$

$$\textcircled{2} 8(0.5) + 2(1.75) = 7.50$$

$$\checkmark 7.50 = 7.50$$

$$LS = RS$$

\therefore Ms. Croteau was

RIGHT!

Example 2:

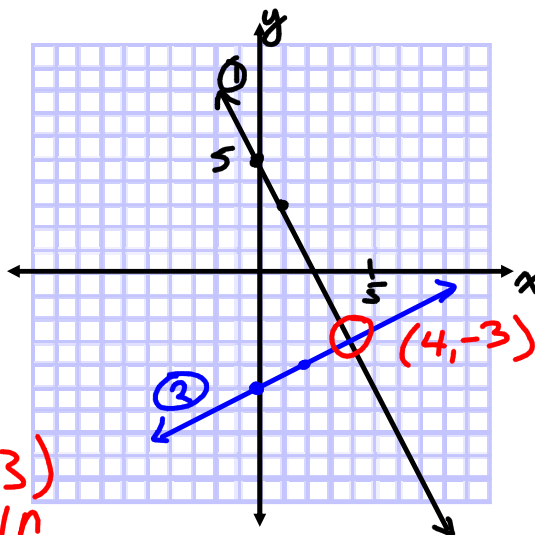
Solve by graphing.

a. $2x + y = 5$ ①

$x - 2y = 10$ ②

① $y = -2x + 5$

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



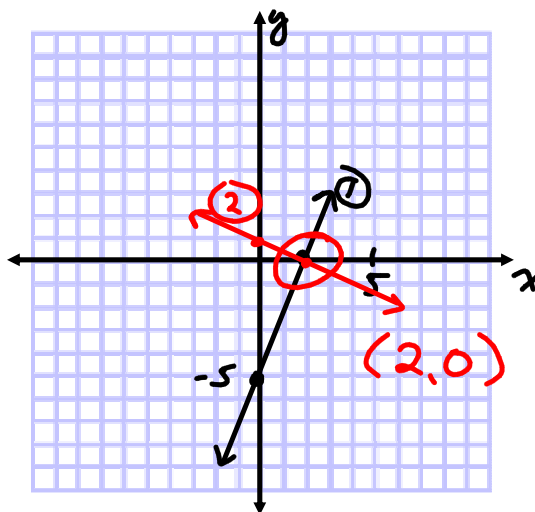
$\therefore (4, -3)$
is soln

b. $5x - 2y = 10$ ①

$x + 2y = 2$ ②

① $\frac{x\text{-int } (y=0)}{5x=10}$ $\frac{y\text{-int } (x=0)}{-2y=10}$
 $x=2$ $y=-5$

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

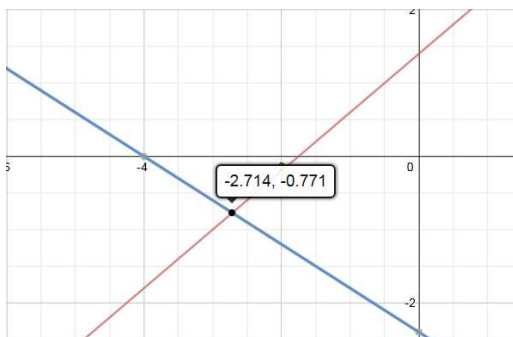


$\therefore (2, 0)$ is the
soln

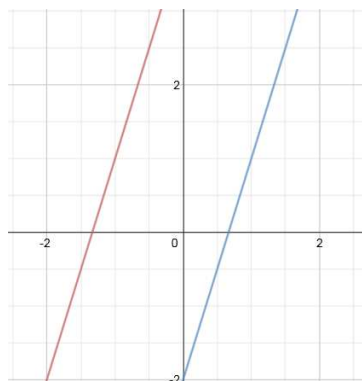
Using Technology to Determine the Point of Intersection

Use **desmos.com** determine the point of intersection of the following systems.

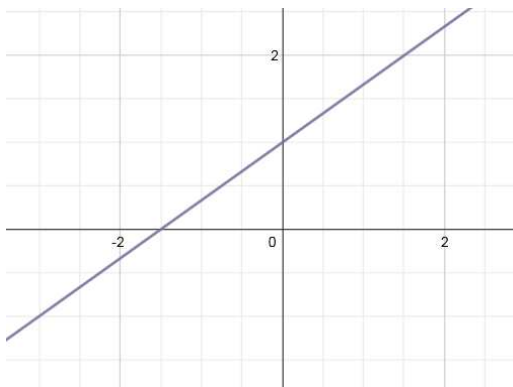
a) $4x - 5y = -7$
 $-3x = 12 + 5y$



b) $y = 3x + 4$
 $y = 3x - 2$



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



Your Turn
p.17 #7, 8ab, 9ab, 19, 20

