



Math Virtual Learning

Algebra 1 S1

April 30, 2020



Algebra 1 S1
Lesson: April 30, 2020

Objective/Learning Target:

Students will determine the number of solutions in a system of equations.

Brainstarter

Using the graphing calculator linked above, enter in the following system of equations. Observe and note any patterns you notice.

$$y = 2x + 1$$

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

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

$$2y - 4x = 2$$

$$y = 3x - 5$$

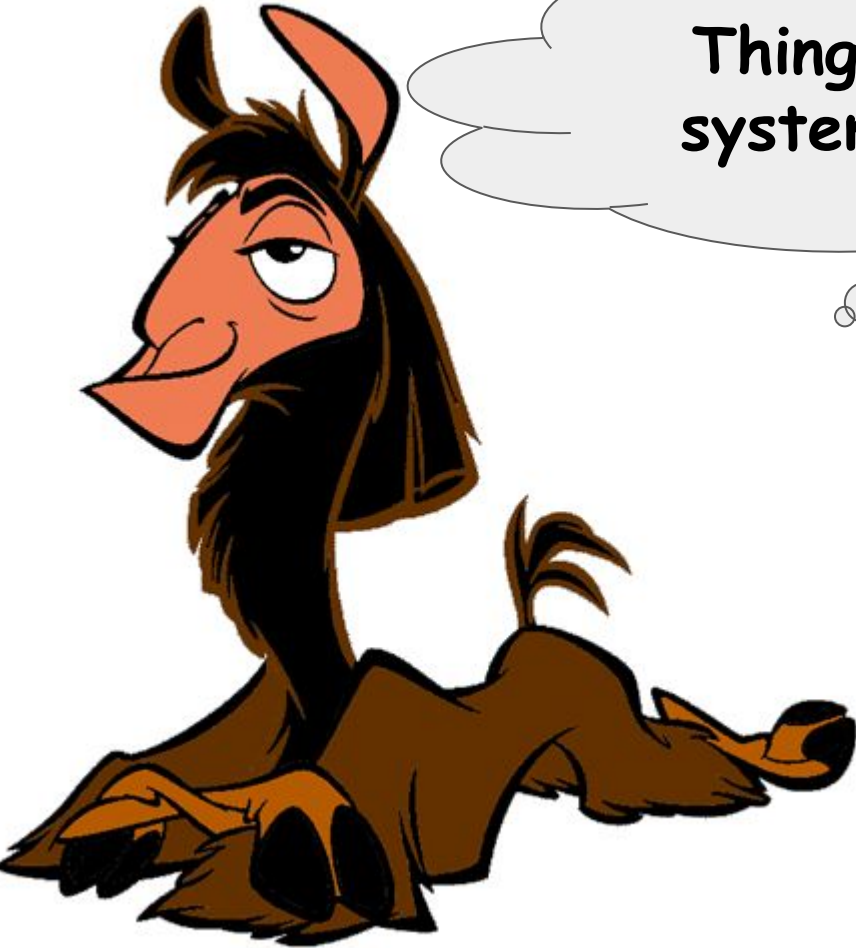
$$5y = 3x - 10$$



Let's Get Started
[Watch Video:](#)



"Remember
Take Notes"



**Things to remember about
system of linear equations.**

**Perpendicular Lines
there is one solution:
the point of
intersection.**

**Parallel lines,
there are no
solutions**

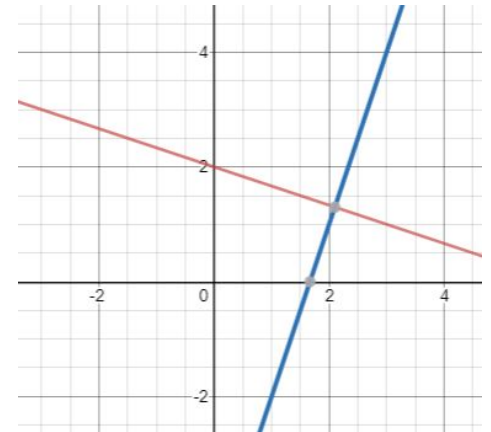
**When the equations
form the same line,
there is Infinitely
many solutions**

A System of Linear Equations has one solution when the graphs intersect at a point. (2.1, 1.3)



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

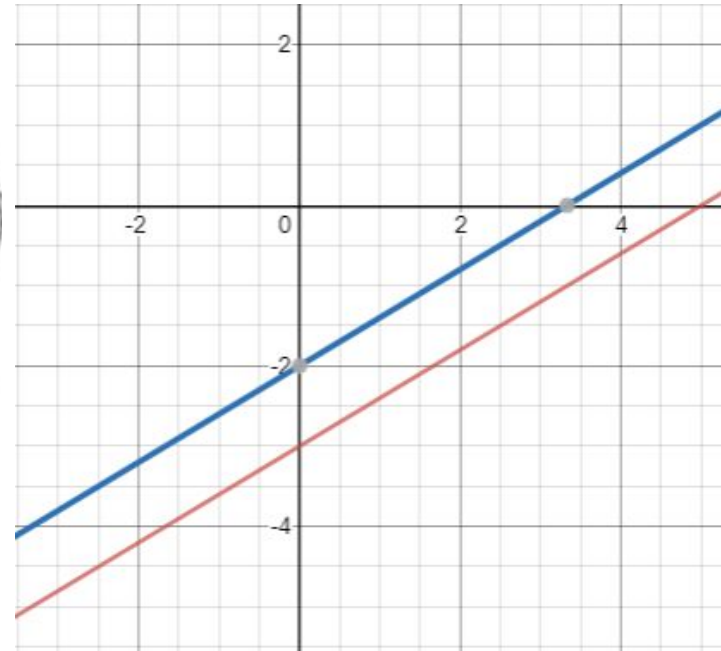
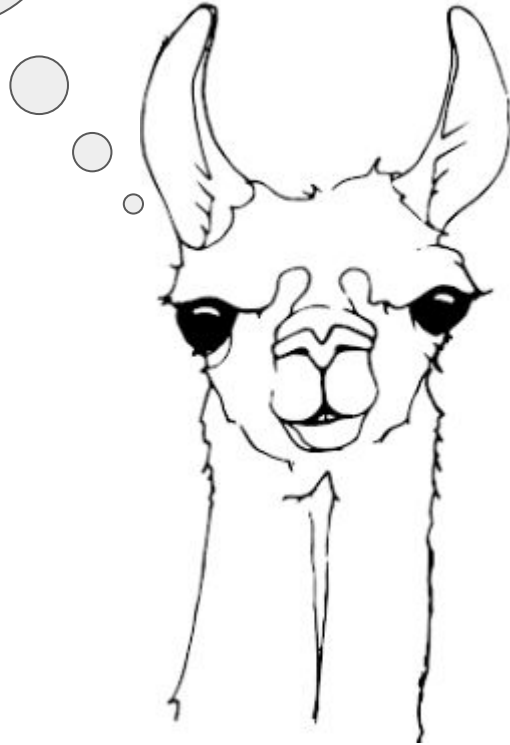
$$y = 3x - 5$$



A system of linear equations has no solution when they are parallel.

$$5y = 3x - 10$$

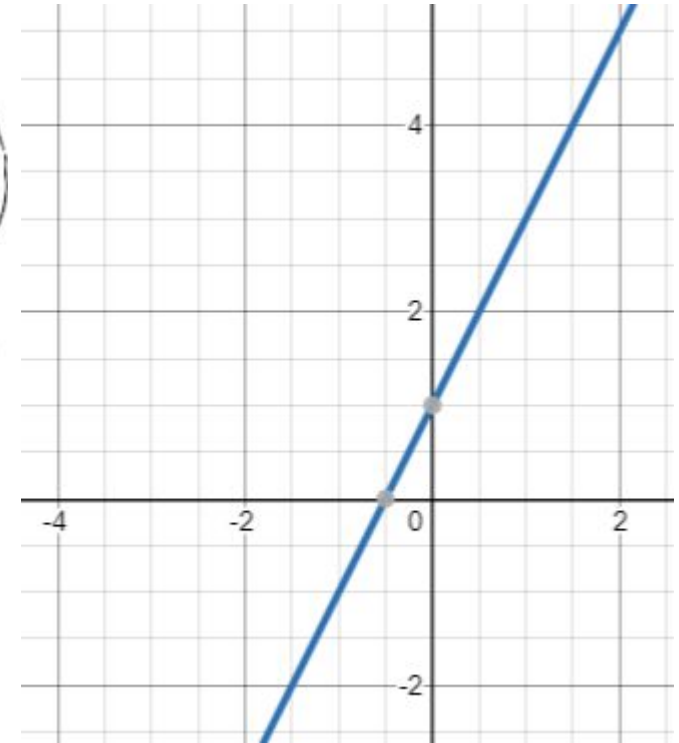
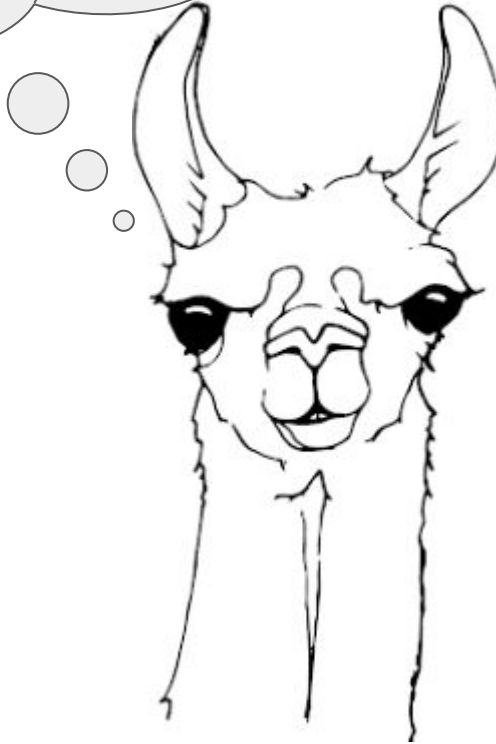
$$y = \frac{3x - 3}{5}$$



A System of Linear Equations have infinitely many solutions when the equations make the same line.

$$2y - 4x = 2$$

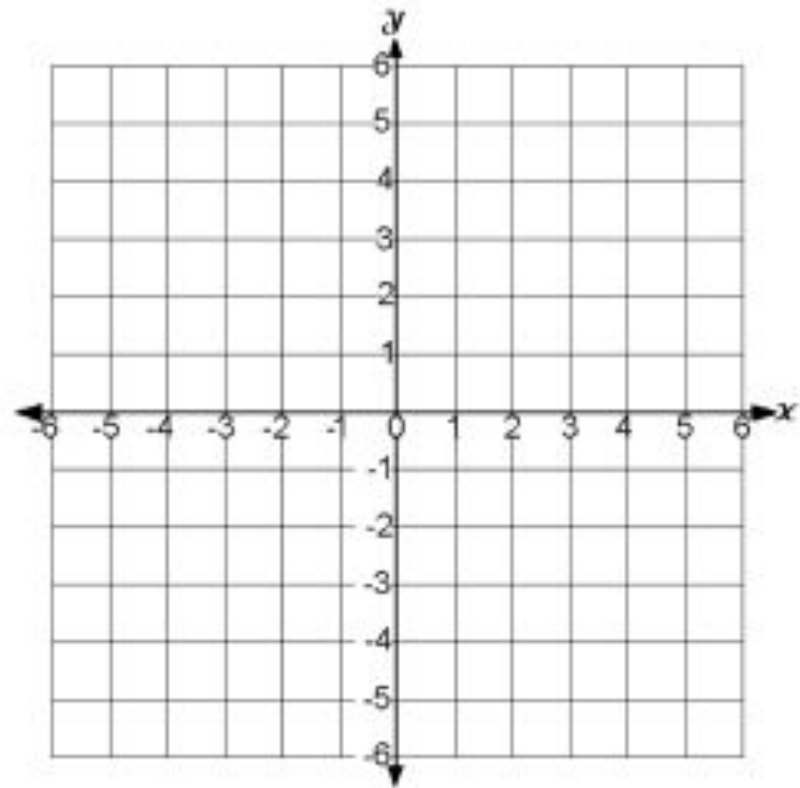
$$y = 2x + 1$$



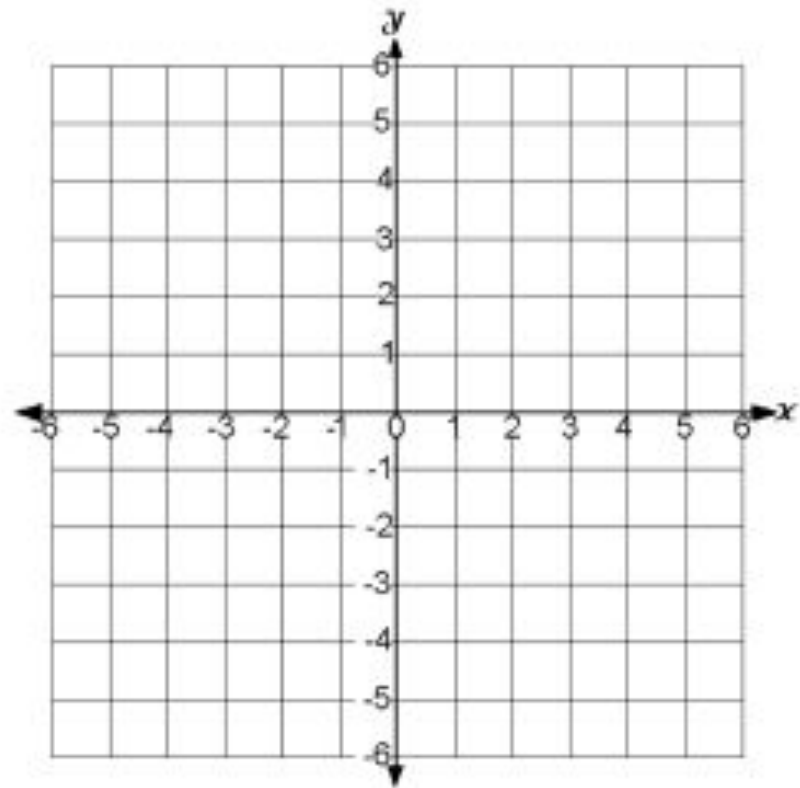
Now it's your turn! You
can graph on your own or
use the [Desmos Tool!](#)



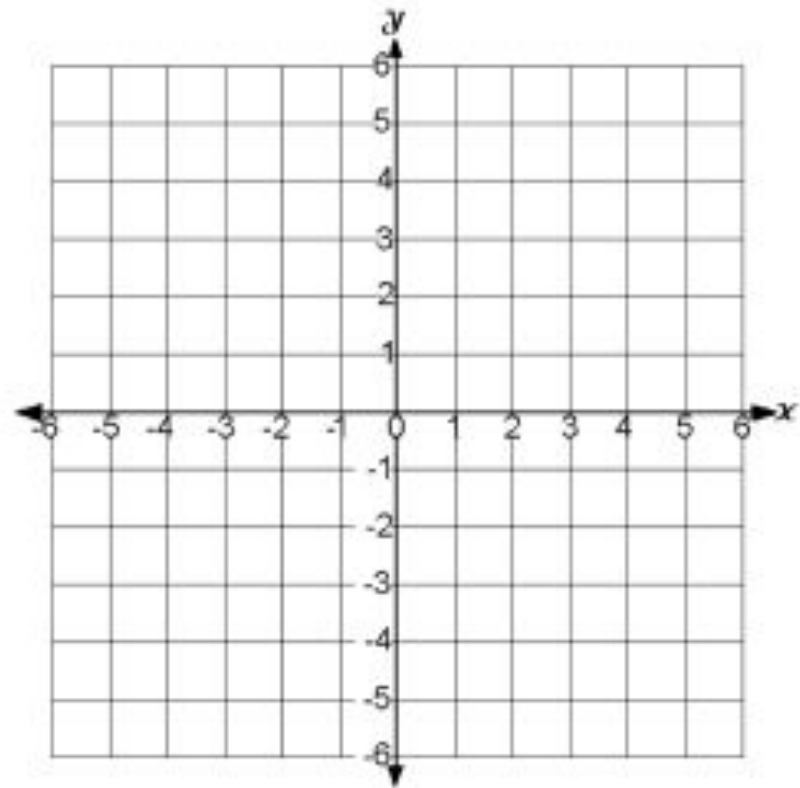
1). $y = -6x + 8$
 $3x + y = -4$



2). $y = -3x + 9$
 $6x + 2y = -14$



3). $-6x + 4y = 2$
 $3x - 2y = -1$



Answer Key:

Once you have completed the problems, check your answers here.

1). One Solution

2). No Solution

3). Infinitely
Many solutions



Additional Practice:

Click on the links below to get additional practice and to check your understanding!

[Finding the number of Solutions](#)

