

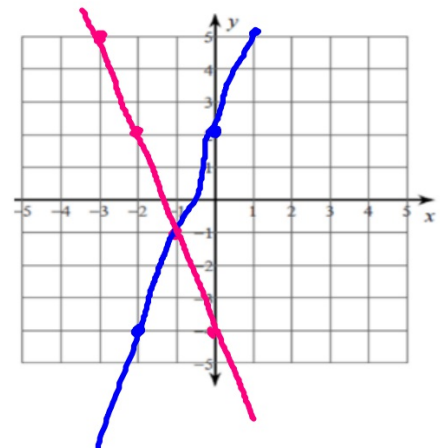
Content and Language Objective:

SWBAT identify if a system of equations has zero, one, or multiple solutions by creating various types of graphs.

Warm - Up

1. Graph the system: $\begin{cases} y=3x+2 \\ y=-3x-4 \end{cases}$

$(-1, -1)$



2. What is the solution? _____

Content and Language Objective:

SWBAT identify if a system of equations has zero, one, or multiple solutions by creating various types of graphs.

Title: Graphing Systems of Various Types

Date: October 23, 2015

Content and Language Objective:

SWBAT identify if a system of equations has zero, one, or multiple solutions by creating various types of graphs.

How many solutions did you get when you worked through your warm-up?

One Solution

There are times where you will find that this is not always the case. We are going to look at some different systems that have special qualities when it comes to their solutions.

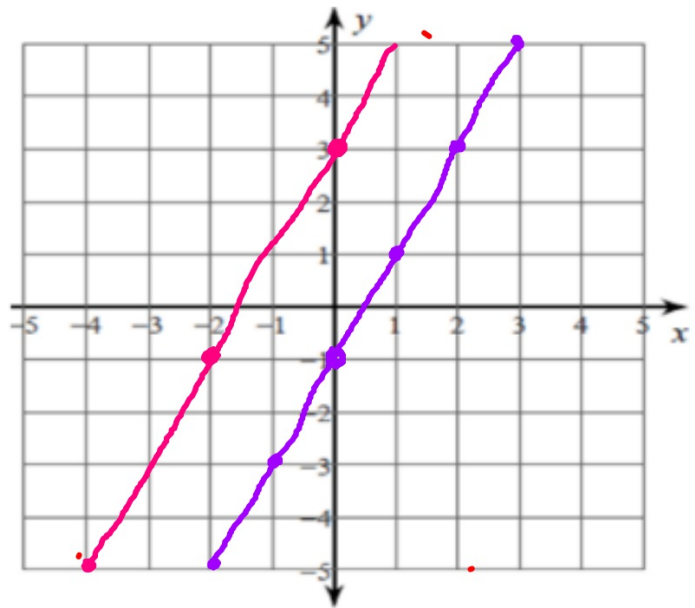
Content and Language Objective:

SWBAT identify if a system of equations has zero, one, or multiple solutions by creating various types of graphs.

Graph the system:

$$y = \frac{4}{2}x + 3$$
$$y = 2x - 1$$

$y = 2x + 3$



What is the solution?

No Solution

What do you notice?

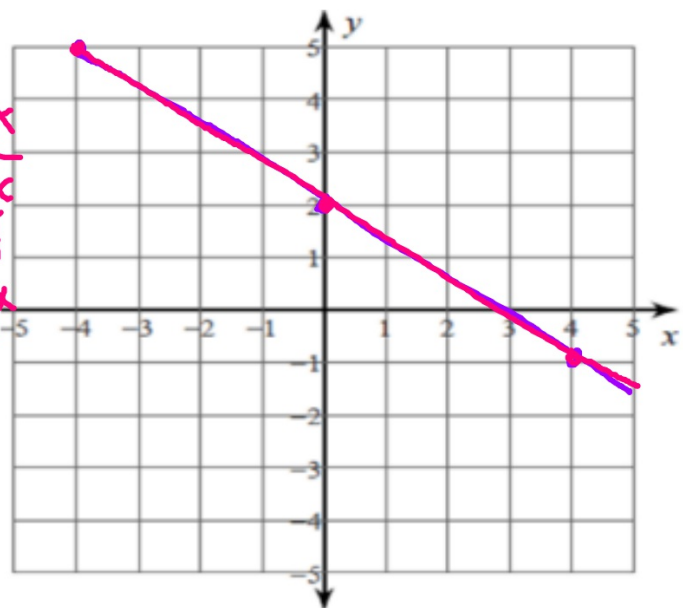
When the slopes are the same you will have no solution

Content and Language Objective:

SWBAT identify if a system of equations has zero, one, or multiple solutions by creating various types of graphs.

Graph the system:

$$\begin{array}{r} 3x + 4y = 8 \\ \underline{-3x} \\ 4y = 8 - 3x \\ \underline{\cdot \frac{1}{4}} \\ y = -\frac{3}{4}x + 2 \end{array}$$



What is the solution?

Infinite Solutions

What do you notice?

When the equation is the same the line is the same.

Content and Language Objective:

SWBAT identify if a system of equations has zero, one, or multiple solutions by creating various types of graphs.

Solutions of systems

1. If the equations are the same the line is the same
so there are infinite solutions
2. If the equations are the same slope the lines are
parallel and there are no solutions
3. If the equations have a different slope and y-intercept
there is one solution.