

NAME _____

Module 10 Solving Systems of Linear Equations and Inequalities**Lesson 1** Solving Systems of Linear Equations by Graphing

guided notes

Lesson Objectives

- Determine whether a given ordered pair is a solution to a system of linear equations.
- Solve systems of two linear equations by graphing.
- Determine whether a system of linear equations is consistent, inconsistent, dependent, and/or independent.

A **system** _____ of linear equations is a set of two or more linear equations that uses the same variables.

An ordered pair is a solution to a system of two equations if it satisfies

both _____ equations.

1 Is $(-4, 3)$ a solution to the system of linear equations? **no** _____

$$\begin{cases} y = 2x + 11 \\ y = 5x - 19 \end{cases}$$

2 Is $(2, 3)$ a solution to the system of linear equations? **yes** _____

$$\begin{cases} 3x + 4y = 18 \\ 2x - y = 1 \end{cases}$$

A solution to a system of linear equations is a point of **intersection** _____

of the graphs of the equations.

Slope-intercept form of a line is **$y = mx + b$** _____, where m is

slope _____ and b is **y -intercept** _____.

A system of linear equations with at least one solution is said to be

consistent _____.

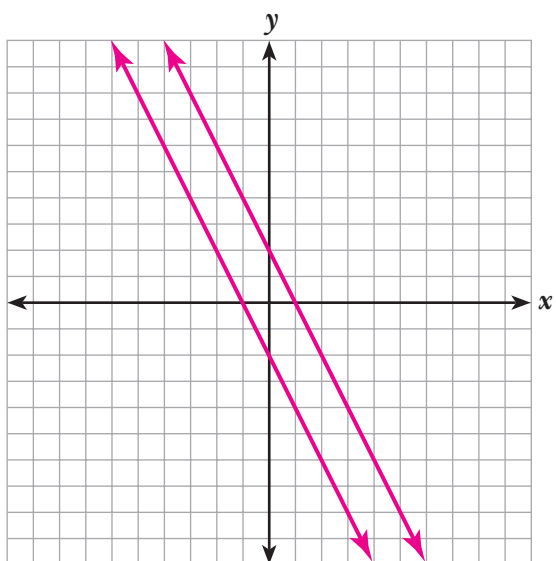
If a system of linear equations has one and only one solution, the system is said to be **independent**.

If a system of linear equations has no solution, the system is said to be **inconsistent**.

If a system of linear equations has an infinite number of solutions, the system is said to be **dependent**.

3 Solve by graphing:

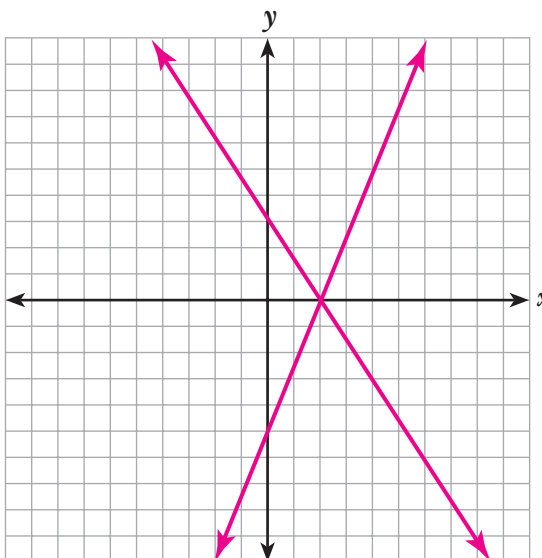
$$\begin{cases} 2x + y = -2 \\ 6x + 3y = 6 \end{cases}$$



The system has no solution.

4 Solve by graphing:

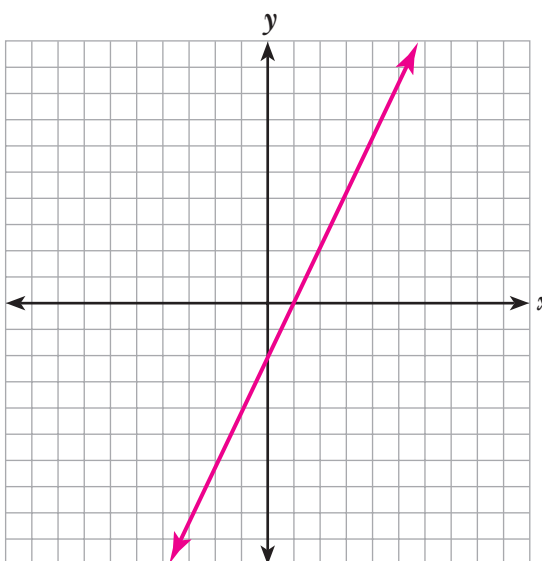
$$\begin{cases} 5x - 2y = 10 \\ y = -\frac{3}{2}x + 3 \end{cases}$$



(2, 0)

5 Solve by graphing:

$$\begin{cases} 4x - 2y = 4 \\ y = 2x - 2 \end{cases}$$



There are an infinite number of solutions.