NAME

Module 10 Solving Systems of Linear Equations and Inequalities

Lesson 3 Solving Systems of Linear Equations by Substitution

guided notes

Lesson Objective

- Solve systems of linear equations by substitution.

Methods of solving systems of linear equations:

- Graphing
- Elimination
- Substitution

An ordered pair (x, y) is the solution to a system of two linear equations if it satisfies **both** equations.

A system of linear equations has either zero, **one**, or **an infinite number of** solutions.

If two expressions are **equal**, one can be substituted for the other in any **equation**.

1 Solve by substitution:

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

(4, 3)

2 Solve by substitution:

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

(4, 1)

3 Solve by substitution:

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

(2, 3)

4 Solve by substitution:

$$\begin{cases} 3x + y = 2 \\ 6x + 2y = 7 \end{cases}$$

No solution

5 Solve by substitution:

$$\begin{cases} x = 3y + 7 \\ x = 2y - 1 \end{cases}$$

(–17, –8)