9.1

Content Objective: I will be able to solve systems of linear equations in multiple ways including: by substitution, elimination and graphically.

Language Objective: I can communicate verbally and in writing what it means to solve a linear system.

Vocabulary: Consistent Dependent

Consistent Independent

Inconsistent

Coinciding Lines

<u>Discussion Questions</u>

What is a linear equation?

What is a linear system?

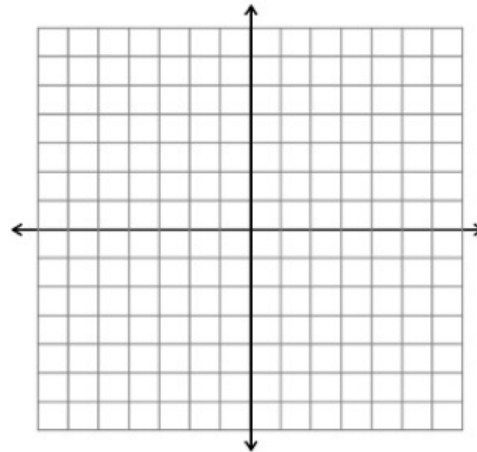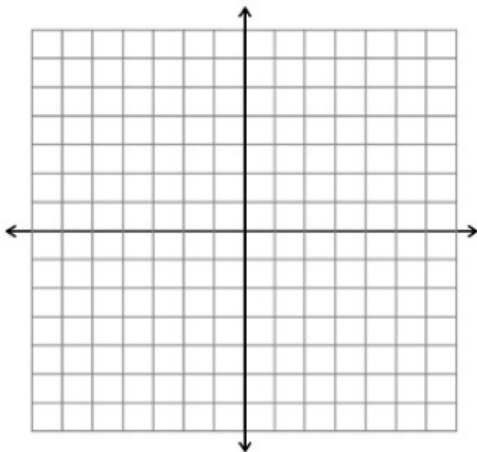What does it mean to solve a linear system?

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

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

Solving Linear Equations
Graphically
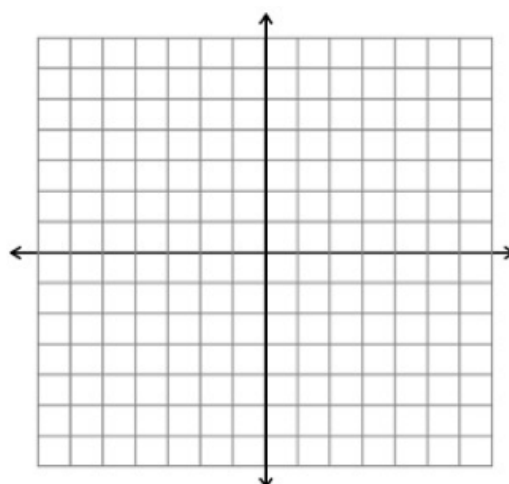
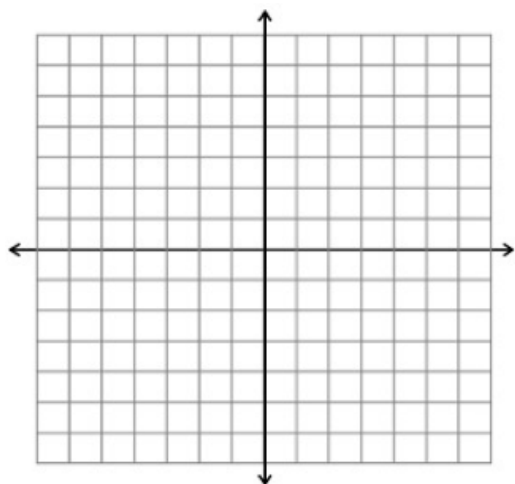$$\begin{cases} y = 4x + 3 \\ y = -x - 2 \end{cases} \qquad \begin{cases} y = -1 \\ y = -\dfrac{5}{2}x + 4 \end{cases}$$

You Try

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

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

Solving Linear Equations
By Substitution

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

$$\begin{cases} x + 3y = 1 \\ -3x - 3y = -15 \end{cases}$$

You Try

$$\begin{cases} y = 6x - 11 \\ -2x - 3y = -7 \end{cases}$$

$$\begin{cases} -7x - 2y = -13 \\ x - 2y = 11 \end{cases}$$

Solving Linear Equations
by Elimination

$$\begin{cases} -4x - 2y = -12 \\ 4x + 8y = -24 \end{cases}$$

$$\begin{cases} -4x + 9y = 9 \\ x - 3y = -6 \end{cases}$$

You Try

$$\begin{cases} 7x + 2y = 24 \\ 8x + 2y = 30 \end{cases} \qquad \begin{cases} 8x + 14y = 4 \\ -6x - 7y = -10 \end{cases}$$