

Chapter 8: Systems of Equations and Inequalities

Section 8.1: Systems of Linear Equations in Two Variables

Key Topics: graphical method, independent, inconsistent, dependent, substitution, elimination

List the four steps of solving a system by The Graphical Method

Step 1 _____

Step 2 _____

Step 3 _____

Step 4 _____

Use the graphical method to solve the system of equations $\begin{cases} x - 2y = 8 & (1) \\ 5x + 3y = 15 & (2) \end{cases}$.

A system of two _____ equations in _____ must have one of the following types of solution sets:

1. One solution also called _____ (the lines intersect); the system is _____, and the equations in the system are said to be _____.
2. _____ solution (the lines are _____); the system is _____.
3. _____ many solutions (the lines coincide); the system is _____, and the equations in the system are said to be _____.

List the five steps of solving a system by The Substitution Method

Step 1 _____

Step 2 _____

Step 3 _____

Step 4 _____

Step 5 _____

Solve the system of equations $\begin{cases} x - 2y = 8 & (1) \\ 5x + 3y = 15 & (2) \end{cases}$ by the substitution method.

List the six steps of solving a system by the Elimination Method

Step 1 _____

Step 2 _____

Step 3 _____

Step 4 _____

Step 5 _____

Step 6 _____

Solve the system of equations $\begin{cases} x - y = -3 & (1) \\ x - 4y = -7 & (2) \end{cases}$ by the elimination method.

Solve the system of equations $\begin{cases} 3x + y = 8 & (1) \\ 6x + 2y = 5 & (2) \end{cases}$