

LESSON C4: SOLVING SYSTEMS OF EQUATIONS BY ELIMINATION

Types of Solutions for Systems of Equations

1 Solution

No Solutions

Infinite Solutions

Steps on Solving Systems of Equations using Elimination

1. Determine which variables you want to “eliminate”
2. Get those variables to have the same coefficient (by multiplying) but **different signs**.
3. Combine your equations to “Eliminate” the variables
4. Solve for your remaining variable
5. Substitute that value into an original equation to solve for the remaining variable.

Examples: Solve the system of equations using Elimination.

1. $8x + y = -16$
 $3x - y = 5$

2. $5x + 4y = -30$
 $3x - 9y = -18$

Problems for Left

3.
$$\begin{aligned} -x - 3y &= 24 \\ x - y &= 12 \end{aligned}$$

5.
$$\begin{aligned} -3x + y &= 16 \\ -x - 9y &= 24 \end{aligned}$$

4.
$$\begin{aligned} x + 3y &= 4 \\ 5x + 3y &= 8 \end{aligned}$$

6.
$$\begin{aligned} -7x + 5y &= 22 \\ -8x + 6y &= 28 \end{aligned}$$