

Name: Guide

Date: _____

Solving Systems of Equations by Elimination Homework

Solve each of the following using the method of elimination:

$$\begin{aligned} 1. \quad & x - y = 7 \\ & \textcircled{+} 2x + y = -10 \\ & \hline & 3x = -3 \\ & x = -1 \end{aligned}$$

$$\begin{aligned} & x - y = 7 \\ & (-1) - y = 7 \\ & -y = 8 \\ & y = -8 \end{aligned}$$

(-1, -8)

$$\begin{aligned} 2. \quad & 2x + y = 11 \\ & x + y = 9 \end{aligned}$$

$$\begin{aligned} 3. \quad & 3(3x + y = 1) \Rightarrow 9x + 3y = 3 \\ & 2x + 3y = -11 \Rightarrow \textcircled{-} 2x + 3y = -11 \\ & \hline & 7x = 14 \\ & x = 2 \end{aligned}$$

$$\begin{aligned} & 3(2) + y = 1 \\ & 6 + y = 1 \\ & y = -5 \end{aligned}$$

(2, -5)

$$\begin{aligned} 4. \quad & x + y = 1 \\ & 3x - y = 11 \end{aligned}$$

$$\begin{aligned} 5. \quad & 9x + 2y = 2 \Rightarrow 9x + 2y = 2 \\ & 2(4x + y = 1) \Rightarrow \textcircled{-} 8x + 2y = 2 \\ & \hline & x = 0 \end{aligned}$$

$$\begin{aligned} 6. \quad & 2x + 3y = 8 \\ & 5x - y = 3 \end{aligned}$$

$$\begin{aligned} & 4(0) + y = 1 \\ & 0 + y = 1 \\ & y = 1 \end{aligned}$$

(0, 1)

$$\begin{aligned} 7. \quad & 2(5x - 3y = -14) \Rightarrow 10x - 6y = -28 \\ & 3(3x + 2y = 3) \Rightarrow \textcircled{+} 9x + 6y = 9 \\ & \hline & 19x = -19 \\ & x = -1 \end{aligned}$$

$$\begin{aligned} 8. \quad & 9x + 6y = 12 \\ & 8x + 3y = 13 \end{aligned}$$

$$\begin{aligned} 9. \quad & 3(3x + 2y = 6) \Rightarrow 9x + 6y = 18 \\ & 2(2x - 3y = 17) \Rightarrow \textcircled{+} 4x - 6y = 34 \\ & \hline & 13x = 52 \\ & x = 4 \end{aligned}$$

$$\begin{aligned} & 3(-1) + 2y = 3 \\ & -3 + 2y = 3 \\ & 2y = 6 \\ & y = 3 \end{aligned}$$

(-1, 3)

$$\begin{aligned} & 3(4) + 2y = 6 \\ & 12 + 2y = 6 \\ & 2y = -6 \\ & y = -3 \end{aligned}$$

(4, -3)

Find and describe the error:

10.

$$\begin{array}{r} 5x + 8y = 1 \\ 2x - 8y = 6 \\ \hline 7x = 7 \\ 7 \quad 7 \\ \hline x = 1 \end{array}$$

$$\begin{array}{r} -2(1) + 8y = -6 \\ 2 + 8y = -6 \\ -2 \quad -2 \\ \hline 8y = -8 \\ 8 \quad 8 \\ \hline y = -1 \\ (1, -1) \end{array}$$

11.

$$\begin{array}{r} 3x - 4y = -5 \\ -3x - 6y = -5 \\ \hline -2y = -10 \\ -2 \quad -2 \\ \hline x = 5 \end{array}$$

$$\begin{array}{r} 3x - 4(5) = -5 \\ 3x - 20 = -5 \\ +20 \quad +20 \\ \hline 3x = 15 \\ 3 \quad 3 \\ \hline x = 5 \\ (5, 5) \end{array}$$

Look closely.
Check over the
work.

Tell me where
I went
wrong.

Review

Determine if $(-1, 3)$ is a solution to the following system of equations. Answer **yes** or **no**.

$$\begin{array}{l} 12. \ 2x + 2y = 4 \\ \quad 3x - y = -6 \end{array}$$

Determine whether the following systems have no solution, one solution, or infinitely many solutions. You may use the graph provided if needed.

$$\begin{array}{l} 13. \ y = 5x - 4 \\ \quad y = 5x - 5 \end{array}$$

Same slope = parallel

A. No solution
B. One solution
C. Infinitely many solutions

$$\begin{array}{l} 14. \ y = 2x - 3 \\ \quad y = -x + 3 \end{array}$$

A. No solution
B. One solution
C. Infinitely many solutions

