

Name _____
Date _____

Advanced Algebra Unit #6 Linear Programming Assignment #3
Review of Solving Systems of Equations

Solve the following simultaneous equations by graphing:

$$\begin{aligned} 1) \quad & x - y = 2 \\ & -3x + y = -6 \\ \hline & -2x = 8 \\ & x = -4 \end{aligned}$$

$$\begin{aligned} 4) \quad & x + y = -2 \\ & 6x - y = 9 \\ \hline & 7x = 7 \\ & x = 1 \end{aligned}$$

$$\begin{aligned} 2) \quad & x - y = -1 \\ & x + y = 7 \\ \hline & 2x = 6 \\ & x = 3 \end{aligned}$$

$$\begin{aligned} 5) \quad & 3x - y = -2 \\ & -2x + y = -3 \\ \hline & x = 1 \end{aligned}$$

$$\begin{aligned} 3) \quad & x + y = 5 \\ & x - y = -4 \\ \hline & 2x = 1 \\ & x = \frac{1}{2} \\ & y = 4.5 \end{aligned}$$

$$\begin{aligned} 6) \quad & 5x - y = -1 \\ & -2x + y = 5 \\ \hline & 3x = -6 \\ & x = -2 \\ & y = -9 \end{aligned}$$

Solve the following systems by using the Elimination Method

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

$$\begin{aligned} 2) \quad & x + y = 1 \\ & 2x + y = 5 \\ \hline & x + y = 1 \\ & -2x - y = -5 \\ \hline & -x = -4 \\ & x = 4 \\ & y = -3 \end{aligned}$$

$$\begin{aligned} 3) \quad & x + y = 10 \\ & x - y = 6 \\ \hline & 2x = 16 \\ & x = 8 \\ & y = 2 \end{aligned}$$

$$\begin{aligned} 4) \quad & x + y = 14 \\ & x - y = -4 \\ \hline & 2x = 10 \\ & x = 5 \\ & y = 9 \end{aligned}$$

$$\begin{aligned} 5) \quad & x + y = 9 \\ & 2x + y = 15 \\ \hline & 2x + 2y = 18 \\ & -2x - y = -15 \\ \hline & y = 3 \\ & (6, 3) \end{aligned}$$

$$\begin{aligned} 6) \quad & x + y = 0 \\ & 2x + y = 1 \\ \hline & x + y = 0 \\ & -2x - y = -1 \\ \hline & -x = -1 \\ & x = 1 \\ & y = -1 \end{aligned}$$

$$\begin{aligned} 7) \quad & 2x + 4y = 12 \\ & x + 2y = 2 \quad (-2) \\ \hline & 2x + 4y = 12 \\ & -2x - 4y = -4 \\ \hline & 0 = 8 \quad \text{No solution} \end{aligned}$$

$$\begin{aligned} 8) \quad & x + y = 2 \\ & 2x + y = 7 \\ \hline & x = 5 \\ & y = -3 \end{aligned}$$

$$\begin{aligned} 9) \quad & x - 4y = 20 \\ & 2x + 5y = 1 \end{aligned}$$

$$\begin{aligned} 10) \quad & 9x - 5y = -30 \\ & x + 3y = 18 \\ \hline & 8x + 8y = -12 \\ & x + 3y = 18 \\ \hline & 7x = -30 \\ & x = -\frac{30}{7} \end{aligned}$$

$$\begin{aligned} 11) \quad & x + 3y = -2 \quad (3) \\ & -3x + y = 6 \\ \hline & 3x + 9y = -6 \\ & -3x + y = 6 \\ \hline & 10y = 0 \\ & y = 0 \\ & (2, 0) \end{aligned}$$

$$\begin{aligned} & 3x + 9y = -6 \\ & -3x + y = 6 \\ \hline & 10y = 0 \\ & y = 0 \\ & (2, 0) \end{aligned}$$