

HW 5

Kuta Software - Infinite Algebra 1

Name Copi's Key

Solving Systems of Equations by Elimination

Date _____ Period _____

Solve each system by elimination.

Solved

$$\begin{array}{r} 1) \quad -4x - 2y = -12 \\ \quad \quad 4x + 8y = -24 \\ \hline \end{array}$$

$$\begin{array}{r} -4x - 2y = -12 \\ \quad \quad 4x + 8y = -24 \\ \hline 6y = -36 \\ y = -6 \end{array}$$

$$4x + 8(-6) = -24$$

$$4x - 48 = -24$$

$$\quad \quad +48 \quad +48$$

$$4x = 24 \quad \boxed{x = 6}$$

(6, -6)

$$\begin{array}{r} 2) \quad 4x + 8y = 20 \\ \quad \quad -4x + 2y = -30 \\ \hline \end{array}$$

$$\begin{array}{r} 4x + 8y = 20 \\ \quad \quad -4x + 2y = -30 \\ \hline 10y = -10 \\ y = -1 \end{array}$$

(7, -1)

$$\begin{array}{r} 3) \quad x - y = 11 \\ \quad \quad 2x + y = 19 \\ \hline \end{array}$$

$$\begin{array}{r} x - y = 11 \\ \quad \quad 2x + y = 19 \\ \hline 3x = 30 \\ x = 10 \end{array}$$

$$x - y = 11$$

$$10 - y = 11$$

$$-y = 1$$

$$y = -1$$

(10, -1)

$$\begin{array}{r} 4) \quad -6x + 5y = 1 \\ \quad \quad 6x + 4y = -10 \\ \hline \end{array}$$

$$\begin{array}{r} -6x + 5y = 1 \\ \quad \quad 6x + 4y = -10 \\ \hline 9y = -9 \\ y = -1 \end{array}$$

(-1, -1)

Solved

$$\begin{array}{r} 5) \quad -2x - 9y = -25 \\ \quad \quad -1(-4x - 9y = -23) \\ \hline \end{array}$$

$$\begin{array}{r} -2x - 9y = -25 \\ \quad \quad 4x + 9y = 23 \\ \hline 2x = -2 \\ x = -1 \end{array}$$

(-1, 3)

$$\begin{array}{r} 6) \quad 8x + y = -16 \\ \quad \quad -1(-3x + y = -5) \\ \hline \end{array}$$

$$\begin{array}{r} 8x + y = -16 \\ \quad \quad 3x - y = 5 \\ \hline 11x = -11 \\ x = -1 \end{array}$$

(-1, -8)

$$\begin{array}{r} 7) \quad -6x + 6y = 6 \\ \quad \quad -1(-6x + 3y = -12) \\ \hline \end{array}$$

$$\begin{array}{r} -6x + 6y = 6 \\ \quad \quad 6x - 3y = 12 \\ \hline 3y = -6 \\ y = -2 \end{array}$$

$$-6x + 6y = 6$$

$$-6x + 6(-2) = 6$$

$$-6x - 12 = 6$$

$$-6x = 18$$

$$x = -3$$

(5, 6)

$$\begin{array}{r} 8) \quad 7x + 2y = 24 \\ \quad \quad -1(8x + 2y = 30) \\ \hline \end{array}$$

$$\begin{array}{r} 7x + 2y = 24 \\ \quad \quad -8x - 2y = -30 \\ \hline -x = -6 \\ x = 6 \end{array}$$

(6, -9)

Solved

$$\begin{array}{r} 9) \quad (5x + y = 9) \cdot 2 \\ \quad \quad 10x - 7y = -18 \\ \hline \end{array}$$

$$\begin{array}{r} 10x + 2y = 18 \\ \quad \quad 10x - 7y = -18 \\ \hline -5y = 36 \\ y = -7.2 \end{array}$$

$$5x + y = 9$$

$$5x - 7.2 = 9$$

$$5x = 16.2$$

$$x = 3.24$$

(1, 4)

$$\begin{array}{r} 10) \quad -4x + 9y = 9 \\ \quad \quad 4(x - 3y = -6) \\ \hline \end{array}$$

$$\begin{array}{r} -4x + 9y = 9 \\ \quad \quad 4x - 12y = -24 \\ \hline 21y = -15 \\ y = -0.71 \end{array}$$

(9, 5)

$$\begin{array}{r} 11) \quad -3x + 7y = -16 \\ \quad \quad -9x + 5y = 16 \\ \hline \end{array}$$

$$\begin{array}{r} -3x + 7y = -16 \\ \quad \quad 9x - 5y = 16 \\ \hline 18y = 48 \\ y = 2.67 \end{array}$$

$$-3x + 7y = -16$$

$$-3x + 7(2.67) = -16$$

$$-3x + 18.69 = -16$$

$$-3x = -34.69$$

$$x = 11.56$$

(-4, -4)

$$\begin{array}{r} 12) \quad (-7x + y = -19) \cdot 3 \\ \quad \quad -2x + 3y = -19 \\ \hline \end{array}$$

$$\begin{array}{r} -21x + 3y = -57 \\ \quad \quad -2x + 3y = -19 \\ \hline 19x = 38 \\ x = 2 \end{array}$$

$$-7x + y = -19$$

$$-7(2) + y = -19$$

$$-14 + y = -19$$

$$y = -5$$

Solved

(2, -5)