

# HW #8 Key

$$1) \begin{array}{l} -7x + y = -29 \\ 7x + 5y = 23 \end{array}$$

$$6y = -6$$

$$y = -1$$

$$7x + 5(-1) = 23$$

$$7x - 5 = 23$$

$$7x = 28$$

$$x = 4$$

$(4, -1)$

$$2) \begin{array}{l} 3x - 6y = -12 \\ -3x + 7y = 15 \end{array}$$

$$y = 3$$

$$3x - 6(3) = -12$$

$$3x - 18 = -12$$

$$3x = 6$$

$$x = 2$$

$(2, 3)$

$$\begin{aligned} 3) \quad & -4x - 5y = 7 \\ & -2x - 5y = 11 \end{aligned}$$

$$\begin{aligned} -4x - 5y &= 7 \\ 2x + 5y &= -11 \\ \hline -2x &= -4 \end{aligned}$$

$$x = 2$$

$$-2 \cdot 2 - 5y = 11$$

$$-4 - 5y = 11$$

$$-5y = 15$$

$$y = -3$$

$$(2, -3)$$

$$\begin{aligned} 4) \quad & -2x + 9y = -21 \\ & -2x - 2y = 12 \end{aligned}$$

$$\begin{aligned} -2x + 9y &= -21 \\ 2x + 2y &= -12 \\ \hline 11y &= -33 \end{aligned}$$

$$y = -3$$

$$y = -3$$

$$-2x + 9 \cdot (-3) = -21$$

$$-2x - 27 = -21$$

$$-2x = 6$$

$$x = -3$$

$$(-3, -3)$$

$$5) \begin{aligned} -5x - 4y &= -1 \\ -4(-x - y &= 1) \end{aligned}$$

$$-5x - 4y = -1$$

$$\underline{4x + 4y = -4}$$

$$-x = -5$$

$$x = 5$$

$$-5 - y = 1$$

$$-y = 6$$

$$y = -6$$

$$(5, -6)$$

$$6) \begin{aligned} 9x - 16y &= 6 \\ 2(-6x + 8y &= 12) \end{aligned}$$

$$\begin{aligned} 9x - 16y &= 6 \\ \underline{-12x + 16y} &= 24 \end{aligned}$$

$$-3x = 30$$

$$x = -10$$

$$9(-10) - 16y = 6$$

$$-90 - 16y = 6$$

$$-16y = 96$$

$$y = -6$$

$$(-10, -6)$$

$$7) \begin{cases} 3x + 7y = -1 \\ 2x + 10y = 10 \end{cases} \begin{matrix} \cdot 2 \\ \cdot 3 \end{matrix}$$

$$\begin{array}{r} 6x + 14y = -2 \\ -6x - 30y = -30 \\ \hline \end{array}$$

$$\begin{array}{r} -16y = -32 \\ y = 2 \end{array}$$

$$3x + 7 \cdot 2 = -1$$

$$3x + 14 = -1$$

$$3x = -15 \quad (-5, 2)$$

$$x = -5$$

$$8) \begin{cases} -8x - 2y = 4 \\ -7x + 5y = 17 \end{cases} \begin{matrix} \cdot 5 \\ \cdot 2 \end{matrix}$$

$$\begin{array}{r} -40x - 10y = 20 \\ -14x + 10y = 34 \\ \hline \end{array}$$

$$-54x = 54$$

$$x = -1$$

$$-8 \cdot (-1) - 2y = 4$$

$$8 - 2y = 4$$

$$-2y = -4$$

$$y = 2$$

$$(-1, 2)$$

$$9) \begin{cases} -9x - 2y = 25 & \cdot 5 \\ 8x + 5y = -19 & \cdot 2 \end{cases}$$

$$-45x - 10y = 125$$

$$16x + 10y = -38$$

---

$$-29x = 87$$

$$x = -3$$

$$8 \cdot (-3) + 5y = -19$$

$$-24 + 5y = -19$$

$$5y = 5$$

$$y = 1$$

$$(-3, 1)$$

$$10) \begin{cases} -9x + 5y = 19 & \cdot 4 \\ -10x - 4y = 2 & \cdot 5 \end{cases}$$

$$-36x + 20y = 76$$

$$-50x - 20y = 10$$

---

$$-86x = 86$$

$$x = -1$$

$$-10 \cdot (-1) - 4y = 2$$

$$10 - 4y = 2$$

$$-4y = -8$$

$$y = 2$$

$$(-1, 2)$$

# Practice Day

Solve systems by Graphing

Solve systems by Elimination

Solve Word Problems using any  
method

When you complete 1 sheet,  
come get the next  
worksheet.

## Quiz #6

Solving systems by graphing  
and elimination