

Answer Key

1) $-2x - 5y = 17$
 $y = -4x + 11$

$(4, -5)$

$-2x - 5(-4x + 11) = 17$
 $-2x + 20x - 55 = 17$
 $18x - 55 = 17$
 $+ 55 \quad + 55$
 $18x = 72 \quad x = 4$

plugback

$y = -4(4) + 11$
 $y = -16 + 11$
 $y = -5$

2) $2x + 16y = 4$ On video tutorial on blog
 $-x - 8y = 0 \quad \therefore \dots$ NO SOLUTIONS

3) $4x - 7y = -6$
 $x - 6y = -10$

$(2, 2)$

$x = 6y - 10$

$4(6y - 10) - 7y = -6$
 $24y - 40 - 7y = -6$
 $+ 40 \quad + 40$
 $17y = 34$
 $y = 2$

plugback

$4x - 7(2) = -6$
 $4x - 14 = -6$
 $+ 14 \quad + 14$
 $4x = 8$
 $x = 2$

4) $-4x + 4y = -8$
 $4x - 6y = 16$

$(-2, -4)$

$\frac{4y}{4} = \frac{4x - 8}{4}$
 $y = x - 2$

$4x - 6(x - 2) = 16$
 $4x - 6x + 12 = 16$
 $-2x = 4$
 $\frac{-2x}{-2} = \frac{4}{-2}$
 $x = -2$

plug back

$4(-2) - 6y = 16$
 $-8 - 6y = 16$
 $-6y = 24$
 $\frac{-6y}{-6} = \frac{24}{-6}$
 $y = -4$

5) $-x - 10y = 10$
 $-7x + 20y = -20$

$(0, -1)$

$-x = 10y + 10 \quad y = -1$
 $x = -10y - 10$

$-x(-10y - 10) + 20y = -20$
 $10y + 10 + 20y = -20$
 $30y = -30$
 $y = -1$

$-7x + 20(-1) = -20$
 $-7x - 20 = -20$
 $+ 20 \quad + 20$
 $-7x = 0$
 $\frac{-7x}{-7} = \frac{0}{-7}$
 $x = 0$

$$6) \begin{cases} -7x - 8y = -19 \\ 7x + 10y = 29 \end{cases}$$

$$2y = 10$$

$$y = 5$$

$$\boxed{(-3, 5)}$$

$$7x + 10(5) = 29$$

$$7x + 50 = 29$$

$$-50 \quad -50$$

$$7x = -21$$

$$x = -3$$

$$7) \begin{cases} 16x + 7y = 26 \\ 8x - 2y = -20 \end{cases} \begin{matrix} (-2) \\ (-2) \end{matrix}$$

$$-16x + 4y = 40$$

$$16x + 7y = 26$$

$$-16x + 4y = 40$$

$$11y = 66$$

$$y = 6$$

$$\boxed{(-1, 6)}$$

$$16x + 7(6) = 26$$

$$16x + 42 = 26$$

$$16x = -16$$

$$x = -1$$

$$8) \begin{cases} 5x - 7y = -28 \\ 2x - 2y = -12 \end{cases} \begin{matrix} (-2) \\ (-2) \end{matrix}$$

$$\boxed{(-7, -1)}$$

$$-10x + 14y = 56$$

$$14x - 14y = 84$$

$$4x = -28$$

$$x = -7$$

$$2(-7) - 2y = -12$$

$$-14 - 2y = -12$$

$$+14 \quad +14$$

$$-2y = 2$$

$$\frac{-2y}{-2} = \frac{2}{-2}$$

$$y = -1$$

$$9) \begin{cases} 2x - 4y = 6 \\ -7x + 14y = -14 \end{cases}$$

worked out on video tutorial
NO solutions

$$10) \begin{cases} 5x - 6y = 4 \\ -7x - 6y = -20 \end{cases} \begin{matrix} (-) \\ (-) \end{matrix} \text{change sign}$$

$$5x - 6y = 4$$

$$7x + 6y = 20$$

$$12x = 24$$

$$x = 2$$

$$\text{plug in } \boxed{(2, 1)}$$

$$5(2) - 6y = 4$$

$$10 - 6y = 4$$

$$-6y = -6$$

$$y = 1$$