

plugback

Multiply by (2)

$$16x - 10y = 10$$

$$\begin{aligned} -8x - 6y &= 6 \\ -16x - 12y &= 12 \end{aligned}$$

$$\begin{aligned} -22y &= 22 \\ -22 & \quad -22 \\ y &= -1 \end{aligned}$$

$$16x - 10(-1) = 10$$

$$\begin{aligned} 16x + 10 &= 10 \\ -10 & \quad -10 \\ 16x &= 0 \\ x &= 0 \end{aligned}$$

$$(0, -1)$$

$$(14) \quad 8x + 14y = 4$$

$$\begin{aligned} (2) \quad 7x - 7y &= -10 \\ -12x - 14y &= -20 \end{aligned}$$

$$\begin{aligned} -4x &= -16 \\ -4 & \quad -4 \\ x &= 4 \end{aligned}$$

$$(4, -2)$$

plugback

$$\begin{aligned} 8(4) + 14y &= 4 \\ 32 + 14y &= 4 \\ -32 & \quad -32 \\ 14y &= -28 \end{aligned}$$

$$\begin{aligned} 14y &= -28 \\ 14 & \quad 14 \\ y &= -2 \end{aligned}$$

15)

Multiply by 3

$$-4x - 15y = -17$$

$$-x + 5y = -13$$

$$-3x + 15y = -39$$

$$\begin{aligned} -7x &= -56 \\ -7 & \quad -7 \\ x &= 8 \end{aligned}$$

$$(8, -1)$$

$$-4(8) - 15y = -17$$

$$-32 - 15y = -17$$

$$\begin{aligned} +32 & \quad +32 \\ -15y &= 15 \\ -15 & \quad -15 \\ y &= -1 \end{aligned}$$

Multiply by (2)

16)

$$(2) \quad -x - 7y = 14 \quad (0, -2)$$

$$-4x - 14y = 28$$

$$2x + 14y = -28$$

$$-2x = 0$$

$$x = 0$$

$$-4(0) - 14y = 28$$

$$-14y = 28$$

$$\begin{aligned} -14 & \quad -14 \\ y &= -2 \end{aligned}$$

17)

$$-7x - 8y = 9$$

$$-4x + 9y = -22$$

$$-9(-7x - 8y = 9)$$

$$-63x - 72y = 81$$

$$-63x - 72y = 81$$

$$-32x + 72y = -176$$

$$\begin{aligned} -95x &= -95 \\ -95 & \quad -95 \\ x &= 1 \end{aligned}$$

$$(1, -2)$$

$$-7(1) - 8y = 9$$

$$-7 - 8y = 9$$

$$\begin{aligned} +7 & \quad +7 \\ -8y &= 16 \end{aligned}$$

$$-8y = 16 \quad y = -2$$

$$18) \quad \begin{cases} 5x + 4y = -30 \\ 3x - 9y = -18 \end{cases}$$

$$\begin{cases} 9(5x + 4y = -30) \\ 4(3x - 9y = -18) \end{cases}$$

$$\begin{aligned} 45x + 36y &= -270 \\ 12x - 36y &= -72 \\ \hline 57x &= -342 \\ \frac{57x}{57} &= \frac{-342}{57} \end{aligned}$$

$$x = -6$$

$$\begin{aligned} 5(-6) + 4y &= -30 \\ -30 + 4y &= -30 \\ +30 & \quad +30 \\ \hline 4y &= 0 \\ y &= 0 \end{aligned}$$

$$\boxed{(-6, 0)}$$

$$19) \quad \begin{cases} -4x - 2y = 14 \\ -10x + 7y = -25 \end{cases}$$

$$\begin{cases} 7(-4x - 2y = 14) \\ 2(-10x + 7y = -25) \end{cases}$$

$$\boxed{(-1, -5)}$$

$$\begin{aligned} -28x - 14y &= 98 \\ -20x + 14y &= -50 \\ \hline -48x &= 48 \\ \frac{-48x}{-48} &= \frac{48}{-48} \\ x &= -1 \end{aligned}$$

plugback in

$$\begin{aligned} -4(-1) - 2y &= 14 \\ -4 - 2y &= 14 \\ \hline -2y &= 10 \\ \frac{-2y}{-2} &= \frac{10}{-2} \\ y &= -5 \end{aligned}$$

$$20) \quad \begin{cases} 3x - 2y = 2 \\ 5x - 5y = 10 \end{cases}$$

$$\begin{cases} -5(3x - 2y = 2) \\ 3(5x - 5y = 10) \end{cases}$$

$$\boxed{(-2, -4)}$$

$$\begin{aligned} -15x + 10y &= -10 \\ 15x - 15y &= 30 \\ \hline -5y &= 20 \\ \frac{-5y}{-5} &= \frac{20}{-5} \\ y &= -4 \end{aligned}$$

plugback

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