

$$11) x + 3y = 1$$

$$-3x - 3y = -15$$

$$\begin{array}{r} x + 3y = 1 \\ -3x - 3y = -15 \\ \hline x = 1 - 3y \end{array}$$

$$\begin{array}{r} -3(1 - 3y) - 3y = -15 \\ -3 + 9y - 3y = -15 \\ -3 + 6y = -15 \\ +3 \quad +3 \\ \hline 6y = -12 \\ \frac{6y}{6} = \frac{-12}{6} \end{array}$$

$$\begin{array}{l} y = -2 \\ x = 1 - 3(-2) \\ x = 1 + 6 \\ x = 7 \end{array}$$

$$\boxed{(7, -2)}$$

$$12) -3x - 8y = 20$$

$$-5x + y = 19$$

$$\begin{array}{r} -5x + y = 19 \\ +5x \quad +5x \\ \hline y = 19 + 5x \end{array}$$

$$\begin{array}{r} -3x - 8(19 + 5x) = 20 \\ -3x - 152 - 40x = 20 \\ -3x - 152 - 40x = 20 \\ -43x + 152 = 20 \\ +152 \quad +152 \end{array}$$

$$\begin{array}{r} -43x = 172 \\ -43 \quad -43 \\ \hline x = -4 \end{array}$$

$$\begin{array}{r} y = 19 + 5(-4) \\ = 19 - 20 \\ = -1 \end{array}$$

$$\boxed{(-4, -1)}$$

$$13) -3x + 3y = 4$$

$$-x + y = 3$$

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

$$\begin{array}{r} -3x + 3(3 + x) = 4 \\ -3x + 9 + 3x = 4 \\ 9 = 4 \end{array}$$

$$\boxed{\emptyset}$$

$$15) 6x + 6y = -6$$

$$5x + y = -13$$

$$\begin{array}{r} -5x \quad -5x \\ \hline y = -13 - 5x \end{array}$$

$$\begin{array}{r} 6x + 6(-13 - 5x) = -6 \\ 6x - 78 - 30x = -6 \\ -24x - 78 = -6 \\ +78 \quad +78 \\ \hline -24x = 72 \end{array}$$

$$\begin{array}{r} -24x = 72 \\ -24 \quad -24 \\ \hline x = -3 \end{array}$$

$$\begin{array}{r} y = -13 - 5(-3) \\ = -13 + 15 \\ = 2 \end{array}$$

$$\boxed{(-3, 2)}$$

$$14) -3x + 3y = 3$$

$$-5x + y = 13$$

$$\begin{array}{r} -5x + y = 13 \\ +5x \quad +5x \\ \hline y = 13 + 5x \end{array}$$

$$\begin{array}{r} -3x + 3(13 + 5x) = 3 \\ -3x + 39 + 15x = 3 \\ 12x + 39 = 3 \end{array}$$

$$\begin{array}{r} 12x + 39 = 3 \\ -39 \quad -39 \\ \hline 12x = -36 \end{array}$$

$$\begin{array}{r} 12x = -36 \\ 12 \quad 12 \\ \hline x = -3 \end{array}$$

$$\boxed{(-3, -2)}$$

$$\begin{array}{r} y = 13 + 5(-3) \\ = 13 - 15 \\ = -2 \end{array}$$

$$16) 2x + y = 20$$

$$6x - 5y = 12$$

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

$$\begin{array}{r} 6x - 5(-2x + 20) = 12 \\ 6x + 10x - 100 = 12 \\ 16x - 100 = 12 \end{array}$$

$$\begin{array}{r} 16x - 100 = 12 \\ +100 \quad +100 \\ \hline 16x = 112 \end{array}$$

$$\begin{array}{r} 16x = 112 \\ 16 \quad 16 \\ \hline x = 7 \end{array}$$

$$\boxed{(7, 6)}$$

$$\begin{array}{r} y = -2(7) + 20 \\ = -14 + 20 \\ = 6 \end{array}$$

$$\begin{array}{r} -3x - 4y = 2 \\ 3x + 3y = -3 \end{array}$$

$$\begin{array}{r} -2x + 6y = 6 \\ -7x + 8y = -5 \end{array}$$

$$\begin{array}{r} -5x - 8y = 17 \\ 2x - 7y = -17 \end{array}$$

$$20) \begin{array}{r} -2x - y = -9 \\ 5x - 2y = 18 \end{array}$$

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

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

$$5x - 2(9 - 2x) = 18$$

$$5x - 18 + 4x = 18$$

$$\begin{array}{r} 9x - 18 = 18 \\ +18 \quad +18 \\ \hline 9x = 36 \end{array}$$

$$\begin{array}{r} 9x = 36 \\ 9 \quad 9 \\ \hline x = 4 \end{array}$$

$$\begin{array}{r} y = 9 - 2(4) \\ = 9 - 8 \\ = 1 \end{array}$$

$$\boxed{(4, 1)}$$