

WS 18 A Solve using Elimination

$$\begin{array}{r} \textcircled{1} \quad 2x - 3y = -1 \\ + \quad 5x + 3y = 8 \\ \hline \end{array}$$

$$\frac{7x + 0}{7} = \frac{7}{7}$$

$$\boxed{x=1}$$

$$2(1) - 3y = -1$$

$$2 - 3y = -1$$

$$-3y = -3$$

$$y = 1$$

$$\begin{array}{r} \textcircled{2} \quad -3x + 5y = 11 \\ + \quad 3x - 2y = -8 \\ \hline \end{array}$$

$$0 \quad 3y = 3$$

$$\boxed{y=1}$$

$$3x - 2(1) = -8$$

$$3x - 2 = -8$$

$$3x = -6$$

$$\boxed{x=-2}$$

$$\begin{array}{r} \textcircled{3} \quad -3x - 5y = -14 \xrightarrow{\cdot 2} -6x - 10y = -28 \\ \quad \quad 6x + y = 19 \xrightarrow{\quad} + 6x + 1y = 19 \\ \hline \end{array}$$

$$6x + (1) = 19$$

$$6x = 18$$

$$\boxed{x = 3}$$

$$-9y = -9$$

$$\boxed{y = 1}$$

$$\begin{array}{r} \textcircled{4} \quad 6x - 3y = 9 \xrightarrow{\quad} 6x - 3y = 9 \\ \quad \quad 2x + y = 5 \xrightarrow{\cdot 3} + 6x + 3y = 15 \\ \hline \end{array}$$

$$\textcircled{5} \quad \begin{array}{l} x + y = -1 \\ 4x - 6y = -24 \end{array} \xrightarrow{\cdot -4} \begin{array}{l} -4x + -4y = 4 \\ 4x + -6y = -24 \\ \hline \end{array}$$

$$0 + -10y = -20$$

$$y = 2$$

$$x + (2) = -1$$

$$x = -3$$

$$\textcircled{6} \quad \begin{array}{l} 5x + 3y = 15 \\ 2x + y = 7 \end{array} \xrightarrow{\cdot -3} \begin{array}{l} 5x + 3y = 15 \\ -6x - 3y = -21 \\ \hline \end{array}$$

$$-1x = -6$$

$$x = 6$$

$$\begin{array}{r}
 \textcircled{7} \quad 3x + 2y = 6 \xrightarrow{\cdot 3} 9x + 6y = 18 \\
 5x - 3y = -9 \xrightarrow{\cdot 2} 10x - 6y = -18 \\
 \hline
 19x = 0 \\
 \boxed{x = 0}
 \end{array}$$

$$3(0) + 2y = 6$$

$$2y = 6$$

$$\boxed{y = 3}$$

$$\begin{array}{r}
 \textcircled{8} \quad 5x - 10y = 6 \xrightarrow{\cdot 1} 5x - 10y = 6 \\
 x - 2y = 5 \xrightarrow{\cdot -5} -5x + 10y = -25 \\
 \hline
 0 = -19
 \end{array}$$