

1 次の方程式を解きなさい。

(1) $2x - 2y = x + 2y = 12$

(2) $4x + y = 2x - y = 18$

(3) $-4x - 3y = -5x - 5y + 16 = -19$

(4) $-5x + 8y = 6y + 26 = -2x + 2$

1 次の方程式を解きなさい。

(1) $2x - 2y = x + 2y = 12$

$$\begin{cases} 2x - 2y = 12 & \dots\dots \textcircled{1} \\ x + 2y = 12 & \dots\dots \textcircled{2} \end{cases}$$

①と②の連立方程式を解くと、

① $2x - 2y = 12$

② $\begin{array}{r} +) x + 2y = 12 \\ \hline 3x = 24 \\ x = 8 \end{array}$

$x = 8$ を②に代入すると、

$$8 + 2y = 12$$

$$2y = 4$$

$$y = 2$$

答 $\begin{cases} x = 8 \\ y = 2 \end{cases}$

(3) $-4x - 3y = -5x - 5y + 16 = -19$

$$\begin{cases} -4x - 3y = -19 & \dots\dots \textcircled{1} \\ -5x - 5y + 16 = -19 & \dots\dots \textcircled{2} \end{cases}$$

②の式を整理すると、

$$-5x - 5y = -35 \quad \dots\dots \textcircled{3}$$

①と③の連立方程式を解くと、

①×5 $-20x - 15y = -95$

③×3 $\begin{array}{r} -) -15x - 15y = -105 \\ \hline -5x = 10 \\ x = -2 \end{array}$

$x = -2$ を①に代入すると、

$$-4 \times (-2) - 3y = -19$$

$$-3y = -27$$

$$y = 9$$

答 $\begin{cases} x = -2 \\ y = 9 \end{cases}$

(2) $4x + y = 2x - y = 18$

$$\begin{cases} 4x + y = 18 & \dots\dots \textcircled{1} \\ 2x - y = 18 & \dots\dots \textcircled{2} \end{cases}$$

①と②の連立方程式を解くと、

① $4x + y = 18$

② $\begin{array}{r} +) 2x - y = 18 \\ \hline 6x = 36 \\ x = 6 \end{array}$

$x = 6$ を②に代入すると、

$$2 \times 6 - y = 18$$

$$-y = 6$$

$$y = -6$$

答 $\begin{cases} x = 6 \\ y = -6 \end{cases}$

(4) $-5x + 8y = 6y + 26 = -2x + 2$

$$\begin{cases} -5x + 8y = -2x + 2 & \dots\dots \textcircled{1} \\ 6y + 26 = -2x + 2 & \dots\dots \textcircled{2} \end{cases}$$

①と②の式を整理すると、

$$\begin{cases} -3x + 8y = 2 & \dots\dots \textcircled{3} \\ 2x + 6y = -24 & \dots\dots \textcircled{4} \end{cases}$$

③と④の連立方程式を解くと、

③×2 $-6x + 16y = 4$

④×3 $\begin{array}{r} +) 6x + 18y = -72 \\ \hline 34y = -68 \\ y = -2 \end{array}$

$y = -2$ を③に代入すると、

$$-3x + 8 \times (-2) = 2$$

$$-3x = 18$$

$$x = -6$$

答 $\begin{cases} x = -6 \\ y = -2 \end{cases}$