

連立方程式 いろいろな計算1

NO.1

名前

/4 点

◆次の連立方程式を解きなさい

$$(1) \begin{cases} 9x - 5(x + y) = -3 \\ 3x - 4y = -2 \end{cases}$$

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

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

$$(4) \begin{cases} 3(x - y) + 2y = 22 \\ 6x - 5(y + 2) = 37 \end{cases}$$

解答

$$(1) \quad \begin{cases} 4x - 5y = -3 & \dots\textcircled{1} \\ 3x - 4y = -2 & \dots\textcircled{2} \end{cases}$$

① × 3 - ② × 4 で、

$$\begin{array}{r} 12x - 15y = -9 \\ -) 12x - 16y = -8 \\ \hline y = -1 \end{array}$$

$$y = -1$$

$y = -1$ を①に代入して、

$$4x - 5 \times (-1) = -3$$

$$4x = -8$$

$$x = -2$$

$$(x, y) = (-2, -1)$$

(2) 式を整理すると

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

① × 1 - ② × 2 で、

$$\begin{array}{r} 2x - 5y = 3 \\ -) 2x + 2y = 10 \\ \hline -7y = -7 \end{array}$$

$$y = 1$$

$y = 1$ を②に代入して、

$$x + 1 \times 1 = 5$$

$$x = 4$$

$$(x, y) = (4, 1)$$

(3) 式を整理すると

$$\begin{cases} 2x - y = -6 & \dots\textcircled{1} \\ 3x + 2y = -2 & \dots\textcircled{2} \end{cases}$$

$$\begin{array}{r}
 \textcircled{1} \times 2 + \textcircled{2} \times 1 \text{ で,} \\
 4x - 2y = -12 \\
 +) \quad 3x + 2y = -2 \\
 \hline
 7x = -14 \\
 x = -2 \\
 x = -2 \text{ を}\textcircled{1}\text{に代入して,} \\
 -y + 2 \times (-2) = -6 \\
 y = 2 \\
 (x, y) = (-2, 2)
 \end{array}$$

(4) 式を整理すると

$$\begin{cases}
 3x - y = 22 & \dots\textcircled{1} \\
 6x - 5y = 47 & \dots\textcircled{2}
 \end{cases}$$

$$\begin{array}{r}
 \textcircled{1} \times 5 - \textcircled{2} \times 1 \text{ で,} \\
 15x - 5y = 110 \\
 -) \quad 6x - 5y = 47 \\
 \hline
 9x = 63 \\
 x = 7 \\
 x = 7 \text{ を}\textcircled{1}\text{に代入して,} \\
 -y + 3 \times 7 = 22 \\
 y = -1 \\
 (x, y) = (7, -1)
 \end{array}$$