

## 連立方程式 いろいろな計算3

NO.1

名前

/4 点

◆次の連立方程式を解きなさい

$$(1) \begin{cases} 3x - 2y = 0 \\ \frac{1}{2}x + \frac{1}{3}y = 2 \end{cases}$$

$$(2) \begin{cases} \frac{1}{2}x + \frac{1}{3}y = 2 \\ \frac{1}{4}x - \frac{2}{3}y = 6 \end{cases}$$

$$(3) \begin{cases} x + y = 22 \\ \frac{1}{4}x + \frac{1}{6}y = 5 \end{cases}$$

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

## 解答

(1) 分数のある式は両辺に分母の最小公倍数をかけて整理する

$$\begin{array}{r} 3x - 2y = 0 \quad \dots\textcircled{1} \\ - ) 3x + 2y = 12 \quad \dots\textcircled{2} \\ \hline \end{array}$$

$$-4y = -12$$

$$y = 3$$

$y = 3$  を①に代入して,

$$3x - 6 = 0$$

$$3x = 6$$

$$x = 2$$

$$(x, y) = (2, 3)$$

$$(2) \quad \begin{array}{r} 3x + 2y = 12 \quad \dots\textcircled{1} \\ - ) 3x - 8y = 72 \quad \dots\textcircled{2} \\ \hline \end{array}$$

$$10y = -60$$

$$y = -6$$

$y = -6$  を①に代入して,

$$3x + (-12) = 12$$

$$x = 8$$

$$(x, y) = (8, -6)$$

$$(3) \quad \begin{cases} x + y = 22 & \dots\textcircled{1} \\ 3x + 2y = 60 & \dots\textcircled{2} \end{cases}$$

①×2 - ②

$$\begin{array}{r} 2x + 2y = 44 \\ - ) 3x + 2y = 60 \\ \hline \end{array}$$

$$-1x = -16$$

$$x = 16$$

$x = 16$  を①に代入して

$$16 + y = 22$$

$$y = 6$$

$$(x, y) = (16, 6)$$

(4) 整理すると

$$\begin{array}{r} 3x + 5y = 0 \cdots \textcircled{1} \\ + ) -3x - y = 12 \cdots \textcircled{2} \\ \hline \end{array}$$

$$4y = 12$$

$$y = 3$$

 $y = 3$  を①に代入して,

$$3x + 15 = 0$$

$$x = -5$$

$$(x, y) = (-5, 3)$$