

# 反射テスト 1次方程式 連立方程式 いろいろ 01

1. 次の連立方程式を解け。(S級1分10秒, A級2分, B級3分20秒, C級5分)

$$(1) \begin{cases} x + y = 24 \\ x - y = -18 \end{cases}$$

$$(2) \begin{cases} 5x + 3y = -19 \\ y = x + 7 \end{cases}$$

$$(3) \begin{cases} 3x + 2y = -7 \\ x - 3y = 27 \end{cases}$$

$$(4) \begin{cases} 2x - 5y = 11 \\ 3x - 4y = -1 \end{cases}$$

2. 次の連立方程式を解け。(S級1分10秒, A級2分, B級3分20秒, C級5分)

$$(1) \quad \begin{cases} x + y = 41 \\ x - y = -11 \end{cases}$$

$$(2) \quad \begin{cases} -3x - 4y - 1 = 0 \\ x = -y + 1 \end{cases}$$

$$(3) \quad \begin{cases} 4x + 5y = 7 \\ x - 3y = 23 \end{cases}$$

$$(4) \quad \begin{cases} 7x + 5y = 10 \\ 8x + 3y = 25 \end{cases}$$

# 反射テスト 1次方程式 連立方程式 いろいろ 01 解答解説

1. 次の連立方程式を解け。(S級1分10秒, A級2分, B級3分20秒, C級5分)

$$(1) \begin{cases} x + y = 24 & \cdots\textcircled{1} \\ x - y = -18 & \cdots\textcircled{2} \end{cases}$$

★加減法  $y$  を消去する.

$$\begin{array}{r} \textcircled{1} \quad x + y = 24 \\ +) \textcircled{2} \quad x - y = -18 \\ \hline \quad 2x \quad = 6 \\ \quad x \quad = 3 \end{array}$$

① に代入

$$\begin{aligned} 3 + y &= 24 \\ y &= 21 \end{aligned}$$

$$(x, y) = (3, 21) \quad \cdots\text{答え}$$

★連立方程式の見直し

最後①を用いて  $y$  を求めたので,

②に代入して確かめる.

$$\textcircled{2} \text{の左辺} = 3 - 21 = -18 \quad \text{OK}$$

$$(2) \begin{cases} 5x + 3y = -19 & \cdots\textcircled{1} \\ y = x + 7 & \cdots\textcircled{2} \end{cases}$$

★代入法  $y$  を消去する.

② を ① に代入すると,

$$\begin{aligned} 5x + 3(x + 7) &= -19 \\ 5x + 3x + 21 &= -19 \\ 8x &= -40 \\ x &= -5 \end{aligned}$$

② に代入して,

$$y = -5 + 7 = 2$$

$$(x, y) = (-5, 2) \quad \cdots\text{答え}$$

$$(3) \begin{cases} 3x + 2y = -7 & \cdots\textcircled{1} \\ x - 3y = 27 & \cdots\textcircled{2} \end{cases}$$

★加減法  $x$  を消去する.

$$\begin{array}{r} \textcircled{1} \quad 3x + 2y = -7 \\ -) \textcircled{2} \times 3 \quad 3x - 9y = 81 \\ \hline \quad \quad 11y = -88 \\ \quad \quad y = -8 \end{array}$$

② に代入

$$\begin{aligned} x - 3 \times (-8) &= 27 \\ x + 24 &= 27 \\ x &= 3 \end{aligned}$$

$$(x, y) = (3, -8) \quad \cdots\text{答え}$$

$$(4) \begin{cases} 2x - 5y = 11 & \cdots\textcircled{1} \\ 3x - 4y = -1 & \cdots\textcircled{2} \end{cases}$$

★加減法  $x$  を消去する.

$$\begin{array}{r} \textcircled{1} \times 3 \quad 6x - 15y = 33 \\ -) \textcircled{2} \times 2 \quad 6x - 8y = -2 \\ \hline \quad \quad -7y = 35 \\ \quad \quad y = -5 \end{array}$$

① に代入

$$\begin{aligned} 2x - 5 \times (-5) &= 11 \\ 2x &= -14 \\ x &= -7 \end{aligned}$$

$$(x, y) = (-7, -5) \quad \cdots\text{答え}$$

2. 次の連立方程式を解け。(S級1分10秒, A級2分, B級3分20秒, C級5分)

$$(1) \begin{cases} x + y = 41 & \cdots\textcircled{1} \\ x - y = -11 & \cdots\textcircled{2} \end{cases}$$

★加減法  $y$  を消去する.

$$\begin{array}{r} \textcircled{1} \quad x + y = 41 \\ +) \textcircled{2} \quad x - y = -11 \\ \hline \quad 2x \quad = 30 \\ \quad x \quad = 15 \end{array}$$

① に代入

$$\begin{aligned} 15 + y &= 41 \\ y &= 26 \end{aligned}$$

$$(x, y) = (15, 26) \quad \cdots\text{答え}$$

$$(2) \begin{cases} -3x - 4y - 1 = 0 & \cdots\textcircled{1} \\ x = -y + 1 & \cdots\textcircled{2} \end{cases}$$

★代入法  $x$  を消去する.

$$\begin{aligned} \textcircled{2} \text{ を } \textcircled{1} \text{ に代入すると,} \\ -3(-y + 1) - 4y - 1 &= 0 \\ 3y - 3 - 4y - 1 &= 0 \\ -y &= 4 \\ y &= -4 \end{aligned}$$

② に代入して,

$$x = -(-4) + 1 = 5$$

$$(x, y) = (5, -4) \quad \cdots\text{答え}$$

$$(3) \begin{cases} 4x + 5y = 7 & \cdots\textcircled{1} \\ x - 3y = 23 & \cdots\textcircled{2} \end{cases}$$

★加減法  $x$  を消去する.

$$\begin{array}{r} \textcircled{1} \quad 4x + 5y = 7 \\ -) \textcircled{2} \times 4 \quad 4x - 12y = 92 \\ \hline \quad \quad 17y = -85 \\ \quad \quad y = -5 \end{array}$$

② に代入

$$\begin{aligned} x - 3 \times (-5) &= 23 \\ x + 15 &= 23 \\ x &= 8 \end{aligned}$$

$$(x, y) = (8, -5) \quad \cdots\text{答え}$$

$$(4) \begin{cases} 7x + 5y = 10 & \cdots\textcircled{1} \\ 8x + 3y = 25 & \cdots\textcircled{2} \end{cases}$$

★加減法  $y$  を消去する.

$$\begin{array}{r} \textcircled{1} \times 3 \quad 21x + 15y = 30 \\ -) \textcircled{2} \times 5 \quad 40x + 15y = 125 \\ \hline \quad -19x \quad = -95 \\ \quad \quad x \quad = 5 \end{array}$$

① に代入

$$\begin{aligned} 7 \times 5 + 5y &= 10 \\ 5y &= -25 \\ y &= -5 \end{aligned}$$

$$(x, y) = (5, -5) \quad \cdots\text{答え}$$