

中2~第14回かっこ・分数・小数の連立方程式~

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解答・解説

例題 次の連立方程式を解きなさい。

(1)
$$\begin{cases} 4x - 3y = 1 \\ 2x - 11 = 3(x + y) \end{cases} \quad \underline{x = -2, y = -3}$$

$$\begin{aligned} 2x - 11 &= 3x + 3y \\ -x - 3y &= 11 \end{aligned}$$

$$\begin{array}{r} 4x - 3y = 1 \\ -) -x - 3y = 11 \\ \hline 5x = -10 \\ x = -2 \end{array}$$

$$\begin{array}{r} 4x - 3y = 1 \\ -2 \\ \hline -8 - 3y = 1 \\ -3y = 9 \\ y = -3 \end{array}$$

(2)
$$\begin{cases} 4x - 7 = -3(y + 2) \\ 5x + 6 = 2(y - 5) \end{cases} \quad \underline{x = -2, y = 3}$$

$$\begin{aligned} 4x - 7 &= -3y - 6 \\ 4x + 3y &= 1 \\ 5x + 6 &= 2y - 10 \\ 5x - 2y &= -16 \end{aligned}$$

$$\begin{array}{r} 4x + 3y = 1 \\ 5x - 2y = -16 \\ \hline 8x + 6y = 2 \\ +) 15x - 6y = -48 \\ \hline 23x = -46 \\ x = -2 \end{array}$$

$$\begin{array}{r} 4x + 3y = 1 \\ -2 \\ \hline -8 + 3y = 1 \\ 3y = 9 \\ y = 3 \end{array}$$

(3)
$$\begin{cases} \frac{x}{3} - \frac{y}{2} = -1 \\ 2x + y = 10 \end{cases} \quad \underline{x = 3, y = 4}$$

$$\begin{aligned} \times 6 \\ 2x - 3y &= -6 \\ 2x + y &= 10 \end{aligned}$$

$$\begin{array}{r} 2x - 3y = -6 \\ -) 2x + y = 10 \\ \hline -4y = -16 \\ y = 4 \end{array}$$

$$\begin{array}{r} 2x + y = 10 \\ 4 \\ \hline 2x = 6 \\ x = 3 \end{array}$$

(4)
$$\begin{cases} 1.5x + 0.7y = 0.1 \\ 3x - 4y = 11 \end{cases} \quad \underline{x = 1, y = -2}$$

$$\begin{aligned} \times 10 \\ 15x + 7y &= 1 \\ 3x - 4y &= 11 \end{aligned}$$

$$\begin{array}{r} 15x + 7y = 1 \\ -) 15x - 20y = 55 \\ \hline 27y = -54 \\ y = -2 \end{array}$$

$$\begin{array}{r} 3x - 4y = 11 \\ -2 \\ \hline 3x + 8 = 11 \\ x = 1 \end{array}$$