

中2～第15回比例式・A=B=C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) $\begin{cases} 4x + y = 32 \\ x : y = 3 : 4 \end{cases} \quad \underline{x = 6, y = 8}$

$4x = 3y$

$4x - 3y = 0$

$4x + y = 32$ $4x - 3y = 0$

$\rightarrow 4x - 3y = 0$ $4x - 24 = 0$

$4y = 32$ $x = 6$

$y = 8$

(2) $\begin{cases} 3x + 5y = 9 \\ (x+5) : (y-1) = 3 : 2 \end{cases} \quad \underline{x = -2, y = 3}$

$2(x+5) = 3(y-1)$

$2x + 10 = 3y - 3$

$2x - 3y = -13$

$6x + 10y = 18$ $3x + 5y = 9$

$\rightarrow 6x - 9y = -39$ $3x + 15 = 9$

$19y = 57$ $x = -2$

$y = 3$

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

$-2x + 3y = 7$

$3x - y = 7$

$-2x + 3y = 7$

$\rightarrow 9x - 3y = 21$

$7x = 28$

$x = 4$

$3x - y = 7$

$12 - y = 7$

$y = 5$

(4) $\begin{cases} 5x - 2y = 8x + 3y = -5y + 16 \end{cases} \quad \underline{x = 5, y = -3}$

$5x - 2y = -5y + 16$

$8x + 3y = -5y + 16$

整理 $\Rightarrow \begin{cases} 5x + 3y = 16 \\ x + y = 2 \end{cases}$

$5x + 3y = 16$

$\rightarrow 3x + 3y = 6$

$2x = 10$

$x = 5$

$x + y = 2$

$5 + y = 2$

$y = -3$