

計算たしかめミックス (1)

名前

※ 解法は一例です。

■ (1) ~ (12) の計算をなさい。(13)、(14) は連立方程式を解きなさい。

$$\begin{aligned} (1) \quad 3x \times (-2yz) &= 3 \times x \times (-2) \times y \times z \\ &= 3 \times (-2) \times x \times y \times z \\ &= -6xyz \end{aligned}$$

$$\begin{aligned} (3) \quad 21ab \div 6a &= \frac{21ab}{6a} \\ &= \frac{21 \times a \times b}{6 \times a} \\ &= \frac{7}{2}b \end{aligned}$$

$$\begin{aligned} (5) \quad (x + 2y) + (-4x + 3y) \\ &= x + 2y - 4x + 3y \\ &= (1 - 4)x + (2 + 3)y \\ &= -3x + 5y \end{aligned}$$

$$\begin{aligned} (7) \quad 5(x + y) + 2(x - 3y) \\ &= 5x + 5y + 2x - 6y \\ &= (5 + 2)x + (5 - 6)y \\ &= 7x - y \end{aligned}$$

$$\begin{aligned} (9) \quad (18x - 12y) \div 6 &= \frac{18x}{6} - \frac{12y}{6} \\ &= 3x - 2y \end{aligned}$$

$$\begin{aligned} (11) \quad \frac{3a - 2b}{4} - \frac{a + b}{6} \\ &= \frac{3(3a - 2b)}{12} - \frac{2(a + b)}{12} \\ &= \frac{3(3a - 2b) - 2(a + b)}{12} \\ &= \frac{9a - 6b - 2a - 2b}{12} \\ &= \frac{7a - 8b}{12} \end{aligned}$$

$$(13) \quad \begin{cases} y = 2x & \dots\dots ① \\ 2x + y = 16 & \dots\dots ② \end{cases}$$

① を ② に代入すると

$$\begin{aligned} 2x + 2x &= 16 \\ 4x &= 16 \\ x &= 4 \end{aligned}$$

$x = 4$ を ① に代入すると

$$\begin{aligned} y &= 2 \times 4 \\ y &= 8 \end{aligned}$$

よって $x = 4, y = 8$

$$\begin{aligned} (2) \quad (5x + 7y) - (6x - y) + (8x + 10y) \\ &= 5x + 7y - 6x + y + 8x + 10y \\ &= (5 - 6 + 8)x + (7 + 1 + 10)y \\ &= 7x + 18y \end{aligned}$$

$$\begin{aligned} (4) \quad 3a^2b \div 2ab \times 6b^2 &= \frac{3a^2b \times 6b^2}{2ab} \\ &= 9ab^2 \end{aligned}$$

$$\begin{aligned} (6) \quad (2a^2 + 3a - 1) + (-a^2 + 4a + 5) \\ &= 2a^2 + 3a - 1 - a^2 + 4a + 5 \\ &= (2 - 1)a^2 + (3 + 4)a + (-1 + 5) \\ &= a^2 + 7a + 4 \end{aligned}$$

$$\begin{aligned} (8) \quad (-3a)^2 &= (-3a) \times (-3a) \\ &= (-3) \times (-3) \times a \times a \\ &= 9a^2 \end{aligned}$$

$$\begin{aligned} (10) \quad \frac{1}{5}(10x - 15y) &= \frac{1}{5} \times 10x + \frac{1}{5} \times (-15y) \\ &= 2x - 3y \end{aligned}$$

$$\begin{aligned} (12) \quad 10a - \{3b + (9a - b) - 1\} \\ &= 10a - (3b + 9a - b - 1) \\ &= 10a - 3b - 9a + b + 1 \\ &= (10 - 9)a + (-3 + 1)b + 1 \\ &= a - 2b + 1 \end{aligned}$$

$$(14) \quad \begin{cases} 2x + 3y = 13 & \dots\dots ① \\ 3x + 2y = 12 & \dots\dots ② \end{cases}$$

$$\begin{array}{r} ① \times 3 \quad \quad \quad 6x + 9y = 39 \\ ② \times 2 \quad \quad \quad -) \quad 6x + 4y = 24 \\ \hline \quad \quad \quad \quad \quad \quad \quad \quad 5y = 15 \\ \quad \quad \quad \quad \quad \quad \quad \quad y = 3 \end{array}$$

$y = 3$ を ② に代入すると

$$\begin{aligned} 3x + 6 &= 12 \\ 3x &= 6 \\ x &= 2 \end{aligned}$$

よって $x = 2, y = 3$