

計算たしかめミックス (15)

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。

$$\begin{aligned} (1) \quad & (5x - 2y) + (-3x + 7y) \\ &= 5x - 2y - 3x + 7y \\ &= (5 - 3)x + (-2 + 7)y \\ &= 2x + 5y \end{aligned}$$

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

$$\begin{aligned} (3) \quad & -36a^2b^3 \div 6ab \div 3b = \frac{-36a^2b^3}{6ab \times 3b} \\ &= -2ab \end{aligned}$$

$$\begin{aligned} (4) \quad & (18x - 9y + 6) \div 3 = \frac{18x}{3} - \frac{9y}{3} + \frac{6}{3} \\ &= 6x - 3y + 2 \end{aligned}$$

$$\begin{aligned} (5) \quad & \frac{a-b}{3} - \frac{2a-3b}{4} \\ &= \frac{4(a-b)}{12} - \frac{3(2a-3b)}{12} \\ &= \frac{4(a-b) - 3(2a-3b)}{12} \\ &= \frac{4a - 4b - 6a + 9b}{12} \\ &= \frac{-2a + 5b}{12} \end{aligned}$$

$$\begin{aligned} (6) \quad & 6a - 3 - \{5b - (4a + 1) + 2b\} \\ &= 6a - 3 - (5b - 4a - 1 + 2b) \\ &= 6a - 3 - 5b + 4a + 1 - 2b \\ &= (6 + 4)a + (-5 - 2)b + (-3 + 1) \\ &= 10a - 7b - 2 \end{aligned}$$

$$\begin{aligned} (7) \quad & 12a^2b \div (-6a^2) = \frac{12a^2b}{-6a^2} \\ &= \frac{12 \times a \times a \times b}{-6 \times a \times a} \\ &= -2b \end{aligned}$$

$$\begin{aligned} (8) \quad & 3ab \times (-2cd) = 3 \times a \times b \times (-2) \times c \times d \\ &= 3 \times (-2) \times a \times b \times c \times d \\ &= -6abcd \end{aligned}$$

$$\begin{aligned} (9) \quad & \frac{3}{4}(16x - 24y) = \frac{3}{4} \times 16x - \frac{3}{4} \times 24y \\ &= 12x - 18y \end{aligned}$$

$$\begin{aligned} (10) \quad & 12a^2b^2 \div 6ab \times 2b = \frac{12a^2b^2 \times 2b}{6ab} \\ &= 4ab^2 \end{aligned}$$

$$\begin{aligned} (11) \quad & (3x + 4y) - (x - 2y) - (5x + y) \\ &= 3x + 4y - x + 2y - 5x - y \\ &= (3 - 1 - 5)x + (4 + 2 - 1)y \\ &= -3x + 5y \end{aligned}$$

$$\begin{aligned} (12) \quad & 5(4a - 3b) - 2(a - 6b) \\ &= 20a - 15b - 2a + 12b \\ &= (20 - 2)a + (-15 + 12)b \\ &= 18a - 3b \end{aligned}$$

$$(13) \quad \begin{cases} 4x + 3y = 21 & \dots\dots ① \\ 3x - 2y = 3 & \dots\dots ② \end{cases}$$

$$\begin{array}{rcl} ① \times 2 & 8x + 6y = 42 & \dots\dots ③ \\ ② \times 3 & 9x - 6y = 9 & \dots\dots ④ \\ ③ & 8x + 6y = 42 & \\ ④ & +) 9x - 6y = 9 & \\ \hline & 17x & = 51 \end{array}$$

$$(14) \quad \begin{cases} \frac{1}{2}x + y = 2 & \dots\dots ① \\ 5x + 3y = -1 & \dots\dots ② \end{cases}$$

$$\begin{array}{rcl} ① \text{の両辺を} 2 \text{倍すると} & & \\ x + 2y = 4 & \dots\dots ③ & \\ ③ \times 5 & 5x + 10y = 20 & \\ ② & -) 5x + 3y = -1 & \\ \hline & 7y = 21 & \\ & y = 3 & \end{array}$$

$$\begin{aligned} x = 3 \text{を} ① \text{に代入すると} \quad & 12 + 3y = 21 \\ & 3y = 9 \\ & y = 3 \end{aligned}$$

$$\begin{aligned} y = 3 \text{を} ③ \text{に代入すると} \quad & x + 6 = 4 \\ & x = -2 \end{aligned}$$

よって $x = 3, y = 3$

よって $x = -2, y = 3$