

計算たしかめミックス (16)

名

※ 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。

$$\begin{aligned} (1) \quad & \frac{a-2b}{6} - \frac{4a+b}{3} \\ &= \frac{a-2b}{6} - \frac{2(4a+b)}{6} \\ &= \frac{a-2b-8a-2b}{6} \\ &= \frac{-7a-4b}{6} \end{aligned}$$

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

$$\begin{aligned} (3) \quad & \frac{5}{6}(12x-18y) = \frac{5}{6} \times 12x - \frac{5}{6} \times 18y \\ &= 10x - 15y \end{aligned}$$

$$\begin{aligned} (4) \quad & 15a^3b \div 5ab \div 3a = \frac{15a^3b}{5ab \times 3a} \\ &= a \end{aligned}$$

$$\begin{aligned} (5) \quad & (6a)^2 \times 3ab = (6a) \times (6a) \times 3ab \\ &= 6 \times 6 \times 3 \times a \times a \times a \times b \\ &= 108a^3b \end{aligned}$$

$$\begin{aligned} (6) \quad & 5(3x+2y) + 4(2x-3y) \\ &= 15x + 10y + 8x - 12y \\ &= (15+8)x + (10-12)y \\ &= 23x - 2y \end{aligned}$$

$$\begin{aligned} (7) \quad & (2x-3y) + (-4x+3y) \\ &= 2x - 3y - 4x + 3y \\ &= (2-4)x + (-3+3)y \\ &= -2x \end{aligned}$$

$$\begin{aligned} (8) \quad & (a^2+4a-3) - (-a^2-2a+1) \\ &= a^2+4a-3+a^2+2a-1 \\ &= (1+1)a^2+(4+2)a+(-3-1) \\ &= 2a^2+6a-4 \end{aligned}$$

$$\begin{aligned} (9) \quad & 36a^2 \div 3b \times 4ab = \frac{36a^2 \times 4ab}{3b} \\ &= 48a^3 \end{aligned}$$

$$\begin{aligned} (10) \quad & (9x-15y+24) \div 3 = \frac{9x}{3} - \frac{15y}{3} + \frac{24}{3} \\ &= 3x - 5y + 8 \end{aligned}$$

$$\begin{aligned} (11) \quad & (2a+5b-2) + (a+2b) - (4a+b-3) \\ &= 2a+5b-2+a+2b-4a-b+3 \\ &= (2+1-4)a + (5+2-1)b + (-2+3) \\ &= -a+6b+1 \end{aligned}$$

$$\begin{aligned} (12) \quad & 3x^2 - \{2xy + (y^2 - 3xy + x^2)\} \\ &= 3x^2 - (2xy + y^2 - 3xy + x^2) \\ &= 3x^2 - 2xy - y^2 + 3xy - x^2 \\ &= (3-1)x^2 + (-2+3)xy - y^2 \\ &= 2x^2 + xy - y^2 \end{aligned}$$

$$(13) \quad \begin{cases} 5x+2y=12 & \dots\dots ① \\ 0.3x-0.4y=0.2 & \dots\dots ② \end{cases}$$

② の両辺を 10 倍すると

$$3x - 4y = 2 \quad \dots\dots ③$$

$$\begin{array}{r} ① \times 2 \quad 10x + 4y = 24 \\ +) \quad 3x - 4y = 2 \\ \hline 13x \quad = 26 \\ x = 2 \end{array}$$

$x=2$ を ① に代入すると

$$\begin{aligned} 10 + 2y &= 12 \\ 2y &= 2 \\ y &= 1 \end{aligned}$$

よって $x=2, y=1$

$$(14) \quad \begin{cases} 3x-2y=24 & \dots\dots ① \\ 4x+3y=15 & \dots\dots ② \end{cases}$$

$$\begin{array}{r} ① \times 3 \quad 9x - 6y = 72 \\ ② \times 2 \quad +) 8x + 6y = 30 \\ \hline 17x \quad = 102 \\ x = 6 \end{array}$$

$x=6$ を ① に代入すると

$$\begin{aligned} 18 - 2y &= 24 \\ -2y &= 6 \\ y &= -3 \end{aligned}$$

よって $x=6, y=-3$