

計算たしかめミックス (14)

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。

$$(1) \quad 54a^3b^2 \div 9ab \div 3a = \frac{54a^3b^2}{9ab \times 3a} = 2ab$$

$$(2) \quad (12x + 24y + 4) \div 4 = \frac{12x}{4} + \frac{24y}{4} + \frac{4}{4} = 3x + 6y + 1$$

$$(3) \quad \frac{3a-2b}{2} - \frac{2a-5b}{3} = \frac{3(3a-2b)}{6} - \frac{2(2a-5b)}{6} = \frac{3(3a-2b) - 2(2a-5b)}{6} = \frac{9a-6b-4a+10b}{6} = \frac{5a+4b}{6}$$

$$(4) \quad 2a - b - \{2b - (3a + 1) + b\} = 2a - b - (2b - 3a - 1 + b) = 2a - b - 2b + 3a + 1 - b = (2+3)a + (-1-2-1)b + 1 = 5a - 4b + 1$$

$$(5) \quad 21a^2b \div (-3ab) = \frac{21a^2b}{-3ab} = \frac{21 \times a \times a \times b}{-3 \times a \times b} = -7a$$

$$(6) \quad 5ab \times (-2c) = 5 \times a \times b \times (-2) \times c = 5 \times (-2) \times a \times b \times c = -10abc$$

$$(7) \quad (4x + 3y) - (2x - y) - (x + 5y) = 4x + 3y - 2x + y - x - 5y = (4-2-1)x + (3+1-5)y = x - y$$

$$(8) \quad 4(2a - 5b) - 3(2a - 3b) = 8a - 20b - 6a + 9b = (8-6)a + (-20+9)b = 2a - 11b$$

$$(9) \quad (6x - 3y) + (-4x + 5y) = 6x - 3y - 4x + 5y = (6-4)x + (-3+5)y = 2x + 2y$$

$$(10) \quad (2a^2 - 5a - 1) - (-3a^2 + a + 2) = 2a^2 - 5a - 1 + 3a^2 - a - 2 = (2+3)a^2 + (-5-1)a + (-1-2) = 5a^2 - 6a - 3$$

$$(11) \quad \frac{2}{5}(20x - 15y) = \frac{2}{5} \times 20x - \frac{2}{5} \times 15y = 8x - 6y$$

$$(12) \quad 10a^2b^2 \div 5ab \times 2b = \frac{10a^2b^2 \times 2b}{5ab} = 4ab^2$$

$$(13) \quad \begin{cases} 4x + 5y = 3 & \dots\dots ① \\ \frac{x-2}{4} = \frac{y+1}{3} & \dots\dots ② \end{cases}$$

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

② の両辺を 12 倍すると $3(x-2) = 4(y+1)$
 $3x - 4y = 10 \dots\dots ③$

$$\begin{array}{r} ① \times 3 \quad 12x + 15y = 9 \\ ③ \times 4 \quad -) 12x - 16y = 40 \\ \hline 31y = -31 \end{array}$$

$$\begin{array}{r} ① \quad x + y = 4 \\ ② \quad +) x - y = 2 \\ \hline 2x = 6 \\ x = 3 \end{array}$$

$$y = -1 \text{ を } ① \text{ に代入すると } 4x - 5 = 3 \\ 4x = 8 \\ x = 2$$

$$x = 3 \text{ を } ① \text{ に代入すると } 3 + y = 4 \\ y = 1 \\ \text{よって } x = 3, y = 1$$

よって $x = 2, y = -1$