

式の計算④ 解答と解説

1 解答 (1) $18x + 15y$ (2) $a + 4b$ (3) $13m + n$ (4) $14x - 3y$

(5) $13a - 30b$ (6) $-18x - 2y$ (7) $8a$ (8) $9p + 36q$

(9) $15x^2 + 11x - 22$ (10) $34a^2 + 35ab - 24b^2$

(1) $8x + 5(2x + 3y) = 8x + 10x + 15y = 18x + 15y$

(2) $-4(6a - b) + 25a = -24a + 4b + 25a$

$= -24a + 25a + 4b = a + 4b$

(3) $2(9m - 3n) + (-5m + 7n) = 18m - 6n - 5m + 7n$

$= 18m - 5m - 6n + 7n = 13m + n$

(4) $3(2x + 5y) + 2(4x - 9y) = 6x + 15y + 8x - 18y$

$= 6x + 8x + 15y - 18y = 14x - 3y$

(5) $3(a - 5b) + 5(2a - 3b) = 3a - 15b + 10a - 15b$

$= 3a + 10a - 15b - 15b = 13a - 30b$

(6) $2(-5x + y) - 4(2x + y) = -10x + 2y - 8x - 4y$

$= -10x - 8x + 2y - 4y = -18x - 2y$

(7) $5(3a - 7b) - 7(a - 5b) = 15a - 35b - 7a + 35b$

$= 15a - 7a - 35b + 35b = 8a$

(8) $-3(p - 2q) + 6(2p + 5q) = -3p + 6q + 12p + 30q$

$= -3p + 12p + 6q + 30q = 9p + 36q$

(9) $3(x^2 - 7x + 2) + 4(3x^2 + 8x - 7) = 3x^2 - 21x + 6 + 12x^2 + 32x - 28$

$= 3x^2 + 12x^2 - 21x + 32x + 6 - 28 = 15x^2 + 11x - 22$

(10) $7(4a^2 + 5ab - 2b^2) - 2(5b^2 - 3a^2) = 28a^2 + 35ab - 14b^2 - 10b^2 + 6a^2$

$= 28a^2 + 6a^2 + 35ab - 14b^2 - 10b^2$

$= 34a^2 + 35ab - 24b^2$

2 解答 (1) $\frac{4x - 7y}{4}$ (2) $\frac{5x + 8y}{6}$ (3) $\frac{-3x - 2y}{9}$ (4) $\frac{-a + 5b}{2}$

(5) $\frac{21a - 23b}{10}$ (6) $\frac{27a + b}{12}$ (7) $\frac{-11a + 27b}{12}$

(1) $\frac{2x + y}{4} + \frac{x - 4y}{2} = \frac{2x + y}{4} + \frac{2(x - 4y)}{4} = \frac{2x + y + 2x - 8y}{4} = \frac{4x - 7y}{4}$

(2) $\frac{2x + 3y}{3} + \frac{x + 2y}{6} = \frac{2(2x + 3y)}{6} + \frac{x + 2y}{6}$

$= \frac{4x + 6y + x + 2y}{6} = \frac{5x + 8y}{6}$

(3) $\frac{3x - 5y}{9} - \frac{2x - y}{3} = \frac{3x - 5y}{9} - \frac{3(2x - y)}{9}$

$= \frac{3x - 5y - 6x + 3y}{9}$

$= \frac{-3x - 2y}{9}$

(4) $a + 3b - \frac{3a + b}{2} = \frac{2(a + 3b)}{2} - \frac{3a + b}{2}$

$= \frac{2a + 6b - 3a - b}{2}$

$= \frac{-a + 5b}{2}$

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

$= \frac{25a - 5b - 4a - 18b}{10}$

$= \frac{21a - 23b}{10}$

(6) $\frac{5a - b}{4} + \frac{3a + b}{3} = \frac{3(5a - b)}{12} + \frac{4(3a + b)}{12}$

$= \frac{15a - 3b + 12a + 4b}{12}$

$= \frac{27a + b}{12}$

(7) $\frac{2a + 9b}{6} - \frac{5a - 3b}{4} = \frac{2(2a + 9b)}{12} - \frac{3(5a - 3b)}{12}$

$= \frac{4a + 18b - 15a + 9b}{12}$

$= \frac{-11a + 27b}{12}$