

<因数分解>

$$\begin{aligned} \boxed{1}(1) \quad & 5x^2 - 45 \\ & = 5(x^2 - 9) \\ & = 5(x - 3)(x + 3) \end{aligned}$$

$$\begin{aligned} (2) \quad & 3ax^2 + 12ax + 12a \\ & = 3a(x^2 + 4x + 4) \\ & = 3a(x + 2)^2 \end{aligned}$$

$$\begin{aligned} (3) \quad & 2bx^2 - 4bx - 16b \\ & = 2b(x^2 - 2x - 8) \\ & = 2b(x - 4)(x + 2) \end{aligned}$$

$$\begin{aligned} (4) \quad & 4a^2b - bx^2 \\ & = b(4a^2 - x^2) \\ & = b(2a + x)(2a - x) \end{aligned}$$

$$\begin{aligned} \boxed{2}(1) \quad & (a + b)x + (a + b)y \\ & \quad A = a + b \text{ とおくと,} \\ & \quad Ax + Ay \\ & = A(x + y) \\ & = (a + b)(x + y) \end{aligned}$$

$$\begin{aligned} (2) \quad & (x + 3)^2 - 7(x + 3) + 10 \\ & \quad A = x + 3 \text{ とおくと,} \\ & \quad A^2 - 7A + 10 \\ & = (A - 5)(A - 2) \\ & = (x + 3 - 5)(x + 3 - 2) \\ & = (x - 2)(x + 1) \end{aligned}$$

$$\begin{aligned} (3) \quad & (a + b)^2 + 5(a + b) + 6 \\ & \quad A = a + b \text{ とおくと,} \\ & \quad A^2 + 5A + 6 \\ & = (A + 2)(A + 3) \\ & = (a + b + 2)(a + b + 3) \end{aligned}$$

$$\begin{aligned} (4) \quad & 3x(2 - y) - y + 2 \\ & = 3x(2 - y) + 2 - y \\ & \quad A = 2 - y \text{ とおくと,} \\ & \quad 3xA + A \\ & = (3x + 1)A \\ & = (3x + 1)(2 - y) \end{aligned}$$

$$\begin{aligned} \boxed{3}(1) \quad & mx - my \\ & = m(x - y) \end{aligned}$$

$$\begin{aligned} (2) \quad & 2ab - 4b^2 \\ & = ab(a - 2b) \end{aligned}$$

$$\begin{aligned} (3) \quad & 15xy - 9xy^2 \\ & = 3xy(5 - 3y) \end{aligned}$$

$$\begin{aligned} (4) \quad & -14a^2 - 21ab + 7a \\ & = -7a(2a + 3b - 1) \end{aligned}$$

$$\begin{aligned} (5) \quad & 18a^2b - 12ab \\ & = 6ab(3a - 2) \end{aligned}$$

$$\begin{aligned} (6) \quad & 4abc + 16ab - 8bc \\ & = 4b(ac + 4a - 2c) \end{aligned}$$

$$\boxed{4}(1) \quad x^2 + 10x + 25 \\ = (x + 5)^2$$

$$(3) \quad x^2 - 64 \\ = (x - 8)(x + 8)$$

$$(5) \quad 100 - 20y + y^2 \\ = y^2 - 20y + 100 \\ = (y - 10)^2$$

$$\boxed{5}(1) \quad x^2 + 4x + 3 \\ = (x + 3)(x + 1)$$

$$(3) \quad x^2 - x - 6 \\ = (x - 3)(x + 2)$$

$$(5) \quad x^2 + 5x - 14 \\ = (x + 7)(x - 2)$$

$$(7) \quad a^2 - 8a + 12 \\ = (a - 6)(a - 2)$$

$$(9) \quad 28 - 16x + x^2 \\ = x^2 - 16x + 28 \\ = (x - 2)(x - 14)$$

$$\boxed{6}(1) \quad 4x^2 - 12x - 40 \\ = 4(x^2 - 3x - 10) \\ = 4(x - 5)(x + 2)$$

$$(3) \quad x^2y - y \\ = y(x^2 - 1) \\ = y(x - 1)(x + 1)$$

$$(5) \quad (a - b)^2 - c^2 \\ A = a - b \text{ とおくと,} \\ A^2 - c^2 \\ = (A - c)(A + c) \\ = (a - b + c)(a - b - c)$$

$$(2) \quad a^2 - 14a + 49 \\ = (a - 7)^2$$

$$(4) \quad 25a^2 - 16b^2 \\ = (5a + 4b)(5a - 4b)$$

$$(6) \quad 4x^2 + 20x + 25 \\ = (2x + 5)^2$$

$$(2) \quad x^2 + x - 2 \\ = (x + 2)(x - 1)$$

$$(4) \quad x^2 - 3x - 18 \\ = (x - 6)(x + 3)$$

$$(6) \quad x^2 - 6x - 16 \\ = (x - 8)(x + 2)$$

$$(8) \quad a^2 + 2a - 3 \\ = (a + 3)(a - 1)$$

$$(10) \quad -2x - 3 + x^2 \\ = x^2 - 2x - 3 \\ = (x - 3)(x + 1)$$

$$(2) \quad -3ax^2 + 6ax - 3a \\ = -3a(x^2 - 2x + 1) \\ = -3a(x - 1)^2$$

$$(4) \quad a(x + y) - 3(x + y) \\ = (a - 3)(x + y)$$

$$(6) \quad (a + b)^2 - 4(a + b) + 4 \\ A = a + b \text{ とおくと,} \\ A^2 - 4A + 4 \\ = (A - 2)^2 \\ = (a + b - 2)^2$$