

4. 多項式の因数分解①

$$(1) a(a+b+c) \quad (2) 5a^2b(a-5b) \quad (3) 3ab(3a^2+ab-b) \quad (4) (x-6)(2x+7)$$
$$(5) (a-3b)(2a+b) \quad (6) \frac{1}{4}(x-2)^2 \quad (7) 3y(x+3)^2 \quad (8) 4(3a+1)^2$$

次の式を因数分解せよ。

$$(1) a^2 + ab + ca = a(a + b + c)$$

$$(2) 5a^3b - 25a^2b^2 = 5a^2b(a - 5b)$$

$$(3) 9a^3b + 3a^2b^2 - 3ab^2 = 3ab(3a^2 + ab - b)$$

$$(4) 2x(x-6) - 7(6-x) = 2x(x-6) + 7(x-6)$$
$$= (x-6)(2x+7)$$

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

$$(6) \frac{1}{4}x^2 - x + 1 = \frac{1}{4}(x^2 - 4x + 4)$$
$$= \frac{1}{4}(x-2)^2$$

$$(7) 3x^2y + 18xy + 27y = 3y(x^2 + 6x + 9)$$
$$= 3y(x+3)^2$$

$$(8) 36a^2 + 24a + 4 = 4(9a^2 + 6a + 1)$$
$$= 4(3a+1)^2$$