

数 I 数と式

$$[1] \quad a^2 + 2ab + b^2 = (a+b)^2, \quad a^2 - 2ab + b^2 = (a-b)^2$$

$$[2] \quad a^2 - b^2 = (a+b)(a-b)$$

$$[3] \quad (x+a)(x+b) = x^2 + (a+b)x + ab$$

2 因数分解①

$$(1) \quad x^2 + 6x + 9$$

$$(2) \quad 4x^2 - 12xy + 9y^2$$

$$(3) \quad 4x^2 - 9y^2$$

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

$$(5) \quad x^2 - x + 20$$

$$(6) \quad 2x^2 - 2x - 4$$

$$(1) \quad (x+3)^2 \quad (2) \quad (2x-3y)^2 \quad (3) \quad (2x+3y)(2x-3y) \quad (4) \quad (x+6)(x-3)$$

$$(5) \quad (x+4)(x-5) \quad (6) \quad 2(x+1)(x-2)$$

数 I 数と式

$$[1] \quad a^3 + 3a^2b + 3ab^2 + b^3 = (a+b)^3, \quad a^3 - 3a^2b + 3ab^2 - b^3 = (a-b)^3$$

$$[2] \quad a^3 + b^3 = (a+b)(a^2 - ab + b^2), \quad a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

2 因数分解②

$$(1) \quad (x+3)^3$$

$$(2) \quad (x-2)^3$$

$$(3) \quad (2a+3b)^3$$

$$(4) \quad (x+2)(x^2 - 2x + 4)$$

$$(5) \quad (x-3)(x^2 + 3x + 9)$$

$$(6) \quad (3a+2b)(9a^2 - 6ab + 4b^2)$$

$$(1) \quad x^3 + 9x^2 + 27x + 27 \quad (2) \quad x^3 - 6x^2 + 12x - 8 \quad (3) \quad 8a^3 + 36a^2b + 54ab^2 + 27b^3$$

$$(4) \quad x^3 + 8 \quad (5) \quad x^3 - 27 \quad (6) \quad 27a^3 + 8b^3$$

数 I 数と式

$$acx^2 + (ad + bc)x + bd = (ax + b)(cx + d)$$

$$\begin{array}{ccc} a & \diagup & b \\ & \diagdown & \\ c & & d \end{array} \quad \begin{array}{c} \longrightarrow bc \\ \longrightarrow cd \end{array}$$

$$\begin{array}{ccc} ac & bd & bc + ad \\ (\text{x^2の係数}) & (\text{定数項}) & (\text{xの係数}) \end{array}$$

2 因数分解③ (たすきがけ)

(1) $2x^2 + 11x + 5$

(2) $6x^2 - x - 12$

(3) $2x^2 - 13x - 17$

(4) $3x^2 - 10x - 8$

(5) $3x^2 + 7xy + 2y^2$

(6) $12x^2 - 7xy - 12y^2$

- (1) $(2x+1)(x+5)$ (2) $(2x-3)(3x+4)$ (3) $(2x+1)(x-7)$ (4) $(3x+2)(x-4)$
(5) $(3x+y)(x+2y)$ (6) $(4x+3y)(3x-4y)$