

p19.

(例)  $(a+b-2)(a+b+2)$

$$a+b = X \text{ とおく}$$

$$= (X-2)(X+2)$$

$$= X^2 - 4$$

$$= (a+b)^2 - 4$$

$$= a^2 + 2ab + b^2 - 4$$

(問8) (1)  $(x+y+3)(x+y-5) = (x+3)(x-5)$

$$= X^2 - 2X - 15$$

$$= (x+y)^2 - 2(x+y) - 15$$

$$= x^2 + 2xy + y^2 - 2x - 2y - 15$$

(2)  $(a-b-6)^2 = (x-b)^2$

$$= X^2 - 12X + 36$$

$$= (a-b)^2 - 12(a-b) + 36$$

$$= a^2 - 2ab + b^2 - 12a + 12b + 36$$

(3)  $(a+b+c)^2 = (x+c)^2$

$$= X^2 + 2cX + c^2$$

$$= (a+b)^2 + 2c(a+b) + c^2$$

$$= a^2 + 2ab + b^2 + 2ac + 2bc + c^2$$

(例)  $2(x+5)^2 - (x+3)(x-3)$

$$= 2(x^2 + 10x + 25) - (x^2 - 9)$$

$$= 2x^2 + 20x + 50 - x^2 + 9$$

$$= 2x^2 - x^2 + 20x + 50 + 9 \quad \leftarrow \begin{array}{l} \text{同類項を} \\ \text{まとめ} \end{array}$$

$$= x^2 + 20x + 59$$

(問9) (1)  $(x-2)^2 + (x+4)(x+1)$

$$= x^2 - 4x + 4 + x^2 + 5x + 4$$

$$= x^2 + x^2 - 4x + 5x + 4 + 4$$

$$= 2x^2 + x + 8$$

(2)  $2(x+1)(x-1) - (x-3)(x+2)$

$$= 2(x^2 - 1) - (x^2 - x - 6)$$

$$= 2x^2 - 2 - x^2 + x + 6$$

$$= 2x^2 - x^2 + x + 6 - 2$$

$$= x^2 + x + 4$$

p22

(例) 32 を3つの素数の積で表してみよう

$$4 \times 8 \quad 8 \times 4 \quad 16 \times 2 \quad 2 \times 2 \times 2 \times 2 \times 2 \Rightarrow 4, 8, 12, 2 \dots 32 \text{ の因数}$$

因数は.

(例) ①  $2ab = 2 \times a \times b \dots 2, a, b$

②  $x^2 + 3x = x(x+3) \dots x, x+3$

$$x^2 + 3x \xrightarrow{\text{因数分解}} x(x+3)$$

展開

(例) ①  $x^2 + 2xy$  を因数分解しよう

$$= x(x+2y)$$

$$x^2 = x \times x$$

$$2xy = 2 \times x \times y$$

共通因数

②  $3ax - 6ay = 3a(x-2y)$

$$3ax = 3 \times a \times x$$

$$6ay = 6 \times a \times y$$

③  $4ab + 2a = 2a(2b+1)$

$$= 2 \times 3 \times a \times y$$

★倍数1を省く

p23

(例) (1)  $ax - bx$

$$= x(a-b)$$

(2)  $2x^2y - 4x$

$$= 2x(xy - 2)$$

p28

(例) (1)  $ab - 5b$

$$= b(a-5)$$

(2)  $4x^2y + 2xy^2$

$$= 2xy(2x+y)$$

(例) (1)  $6mx - 2nx$

$$= 2x(3m-n)$$

(2)  $5x^2 - 10xy$

$$= 5x(x-2y)$$

(3)  $xy^2 - x^2y$

$$= xy(y-x)$$

(4)  $4a^2b - 6ab^2 - 10ab$

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