

<乗法公式のまとめ>

●平方公式

$$(x+a)(x+b) = x^2 + (a+b)x + ab$$

●和と差の式

$$(a \pm b)^2 = a^2 \pm 2ab + b^2$$

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

問1 次の式を展開しなさい。

$$\begin{array}{lll} \textcircled{1} (x+1)(x+2) & \textcircled{2} (x+5)(x-2) & \textcircled{3} (x-3)(x-4) \\ = x^2 + 3x + 2 & = x^2 + 3x - 10 & = x^2 - 7x + 12 \end{array}$$

$$\begin{array}{lll} \textcircled{4} (y+3)(y+5) & \textcircled{5} (a-7)(a-3) & \textcircled{6} (x-6)(x+5) \\ = y^2 + 8y + 15 & = a^2 - 10a + 21 & = x^2 - x - 30 \end{array}$$

$$\begin{array}{ll} \textcircled{7} (x-2)(x+4) & \textcircled{8} \left(y - \frac{2}{3}\right)\left(y + \frac{1}{3}\right) \\ = x^2 + 2x - 8 & = y^2 - \frac{1}{3}y - \frac{2}{9} \end{array}$$

問2 次の式を展開しなさい。

$$\begin{array}{lll} \textcircled{1} (x+6)^2 & \textcircled{2} (a+9)^2 & \textcircled{3} (y-5)^2 \\ = x^2 + 12x + 36 & = a^2 + 18a + 81 & = y^2 - 10y + 25 \end{array}$$

$$\begin{array}{lll} \textcircled{4} (a-7)^2 & \textcircled{5} (a-b)^2 & \textcircled{6} \left(x + \frac{1}{3}\right)^2 \\ = a^2 - 14a + 49 & = a^2 - 2ab + b^2 & = x^2 + \frac{2}{3}x + \frac{1}{9} \end{array}$$

問3 次の式を展開しなさい。

$$\begin{array}{lll} \textcircled{1} (a+b)(a-b) & \textcircled{2} (x+5)(x-5) & \textcircled{3} (x-8)(x+8) \\ = a^2 - b^2 & = x^2 - 25 & = x^2 - 64 \end{array}$$

$$\begin{array}{lll} \textcircled{4} (2+x)(2-x) & \textcircled{5} \left(y + \frac{1}{7}\right)\left(y - \frac{1}{7}\right) & \textcircled{6} (a+4)(4-a) \\ = 4 - x^2 & = y^2 - \frac{1}{49} & = 16 - a^2 \end{array}$$

$$\begin{array}{ll} \textcircled{7} (7x-4y)(7x+4y) & \textcircled{8} (-2x+3y)(-2x-3y) \\ = 49x^2 - 16y^2 & = 4x^2 - 9y^2 \end{array}$$