

<多項式の乗法>

$$(a+b)(c+d) = ac + ad + bc + bd$$

問1 次の計算をなさい。

$$\begin{array}{lll} \textcircled{1} (x-2)(y-3) & \textcircled{2} (a-2)(b+3) & \textcircled{3} (a-b)(c+d) \\ = xy - 3x - 2y + 6 & = a^2 + 3a - 2b - 6 & = ac + ad - bc - bd \end{array}$$

$$\underbrace{(a+b)(c+d)}_{\text{積の形}} \xrightarrow{\text{展開}} \underbrace{ac + ad + bc + bd}_{\text{和の形}}$$

問2 次の式を展開しなさい。

$$\begin{array}{lll} \textcircled{1} (a-3)(b+4) & \textcircled{2} (1-x)(y-1) & \textcircled{3} (1-a)(2-b) \\ = ab + 4a - 3b - 12 & = y - 1 - xy + x & = 2 - b - 2a + ab \end{array}$$

$$\begin{array}{lll} \textcircled{4} (a-x)(b+y) & \textcircled{5} (x+5)(y-3) & \textcircled{6} (x-2)(x-7) \\ = ab + ay - bx - xy & = xy - 3x + 5y - 15 & = x^2 - 7x - 2x + 14 \\ & & = x^2 - 9x + 14 \end{array}$$

問2 次の式を展開しなさい。

$$\begin{array}{lll} \textcircled{1} (a-3)(a+4) & \textcircled{2} (y-2)(y-1) & \textcircled{3} (1-a)(a-3) \\ = a^2 + 4a - 3a - 12 & = y^2 - y - 2y + 2 & = a - 3 - a^2 + 3a \\ = a^2 + a - 12 & = y^2 - 3y + 2 & = -a^2 + 4a - 3 \end{array}$$

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