

多項式23

_組_番 氏名 _____

<多項式のまとめ1>

問1 次の計算をしなさい。

$$\begin{aligned} \textcircled{1} \quad & 2a(a-2b) \\ & = 2a^2 - 4ab \\ \textcircled{3} \quad & (3ab-9b^2) \div \frac{3}{4}b \\ & = (3ab-9b^2) \times \frac{4}{3b} \\ & = 4a - 12b \end{aligned}$$

問2 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} \quad & (x+4)(x+5) \\ & = x^2 + 9x + 20 \\ \textcircled{3} \quad & (3a+1)^2 \\ & = 9a^2 + 6a + 1 \\ \textcircled{5} \quad & (a-9b)(2a-7b) \\ & = 2a^2 - 7ab - 18ab + 63b^2 \\ & = 2a^2 - 25ab + 63b^2 \end{aligned}$$

問3 次の計算をしなさい。

$$\begin{aligned} \textcircled{1} \quad & (a-3)^2 - (a+4)(a-4) \\ & = a^2 - 6a + 9 - (a^2 - 16) \\ & = a^2 - 6a + 9 - a^2 + 16 \\ & = -6a + 25 \end{aligned}$$

問4 次の式を因数分解しなさい。

$$\begin{aligned} \textcircled{1} \quad & 4m^2n + 2mn \\ & = 2mn(2m+1) \\ \textcircled{3} \quad & x^2 - 18x + 81 \\ & = (x-9)^2 \\ \textcircled{5} \quad & 3x^2 - 12x - 36 \\ & = 3(x^2 - 4x - 12) \\ & = 3(x-6)(x+2) \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & (6x^2 - 3x) \div (-3x) \\ & = -2x + 1 \\ \textcircled{4} \quad & 5x(x-1) - x(4x+5) \\ & = 5x^2 - 5x - 4x^2 - 5x \\ & = x^2 - 10x \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & (a+8)(a-4) \\ & = a^2 + 4a - 32 \\ \textcircled{4} \quad & (2x+7)(2x-7) \\ & = 4x^2 - 49 \\ \textcircled{6} \quad & (-4a-b)^2 \\ & = 16a^2 + 8ab + b^2 \\ \textcircled{2} \quad & (x+7)^2 - (x-6)(x-2) \\ & = x^2 + 14x + 49 - (x^2 - 8x + 12) \\ & = x^2 + 14x + 49 - x^2 + 8x - 12 \\ & = 22x + 37 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & x^2 + 4x - 5 \\ & = (x+5)(x-1) \\ \textcircled{4} \quad & 1 - 64a^2 \\ & = (1+8a)(1-8a) \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & xy^2 - 9x \\ & = x(y^2 - 9) \\ & = x(y+3)(y-3) \end{aligned}$$