

# 式の展開

年 組 名前

/12

■ 次の式を計算しなさい。

$$\textcircled{1} - 6(a-2)^2 + a(a-3)$$

$$\textcircled{7} - 9(-8x+5) + (x-4)^2$$

$$\textcircled{2} (a+4)(a+7) + (a-1)(a+9)$$

$$\textcircled{8} (a+8b)(a+4b) + (a+5b)(a-5b)$$

$$\textcircled{3} (a-4)(a-1) - (a+4)(a-1)$$

$$\textcircled{9} 9(x-3)^2 + (x-7)(x+3)$$

$$\textcircled{4} (a+3)(a-6) + 6(a+7)$$

$$\textcircled{10} (x+6)(x-7) + (x-8)(x+2)$$

$$\textcircled{5} (x+2y)(x-5y) + (x+7y)^2$$

$$\textcircled{11} -5(a-3)(a-2) + (a+7)(a-2)$$

$$\textcircled{6} 4(x+6)(x-1) + (x-8)(x-9)$$

$$\textcircled{12} (a+5)(a+1) + 7(a+1)^2$$

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$$\textcircled{1} \quad -6(a-2)^2 + a(a-3)$$

$$\begin{aligned} &= -6(a^2 - 4a + 4) + (a^2 - 3a) \\ &= -6a^2 + 24a - 24 + a^2 - 3a \\ &= -5a^2 + 21a - 24 \end{aligned}$$

$$\textcircled{7} \quad -9(-8x+5) + (x-4)^2$$

$$\begin{aligned} &= -9(-8x+5) + (x^2 - 8x + 16) \\ &= 72x - 45 + x^2 - 8x + 16 \\ &= x^2 + 64x - 29 \end{aligned}$$

$$\textcircled{2} \quad (a+4)(a+7) + (a-1)(a+9)$$

$$\begin{aligned} &= (a^2 + 11a + 28) + (a^2 + 8a - 9) \\ &= a^2 + 11a + 28 + a^2 + 8a - 9 \\ &= 2a^2 + 19a + 19 \end{aligned}$$

$$\textcircled{8} \quad (a+8b)(a+4b) + (a+5b)(a-5b)$$

$$\begin{aligned} &= (a^2 + 12ab + 32b^2) + (a^2 - 25b^2) \\ &= a^2 + 12ab + 32b^2 + a^2 - 25b^2 \\ &= 2a^2 + 12ab + 7b^2 \end{aligned}$$

$$\textcircled{3} \quad (a-4)(a-1) - (a+4)(a-1)$$

$$\begin{aligned} &= (a^2 - 5a + 4) - (a^2 + 3a - 4) \\ &= a^2 - 5a + 4 - a^2 - 3a + 4 \\ &= -8a + 8 \end{aligned}$$

$$\textcircled{9} \quad 9(x-3)^2 + (x-7)(x+3)$$

$$\begin{aligned} &= 9(x^2 - 6x + 9) + (x^2 - 4x - 21) \\ &= 9x^2 - 54x + 81 + x^2 - 4x - 21 \\ &= 10x^2 - 58x + 60 \end{aligned}$$

$$\textcircled{4} \quad (a+3)(a-6) + 6(a+7)$$

$$\begin{aligned} &= (a^2 - 3a - 18) + 6(a+7) \\ &= a^2 - 3a - 18 + 6a + 42 \\ &= a^2 + 3a + 24 \end{aligned}$$

$$\textcircled{10} \quad (x+6)(x-7) + (x-8)(x+2)$$

$$\begin{aligned} &= (x^2 - x - 42) + (x^2 - 6x - 16) \\ &= x^2 - x - 42 + x^2 - 6x - 16 \\ &= 2x^2 - 7x - 58 \end{aligned}$$

$$\textcircled{5} \quad (x+2y)(x-5y) + (x+7y)^2$$

$$\begin{aligned} &= (x^2 - 3xy - 10y^2) + (x^2 + 14xy + 49y^2) \\ &= x^2 - 3xy - 10y^2 + x^2 + 14xy + 49y^2 \\ &= 2x^2 + 11xy + 39y^2 \end{aligned}$$

$$\textcircled{11} \quad -5(a-3)(a-2) + (a+7)(a-2)$$

$$\begin{aligned} &= -5(a^2 - 5a + 6) + (a^2 + 5a - 14) \\ &= -5a^2 + 25a - 30 + a^2 + 5a - 14 \\ &= -4a^2 + 30a - 44 \end{aligned}$$

$$\textcircled{6} \quad 4(x+6)(x-1) + (x-8)(x-9)$$

$$\begin{aligned} &= 4(x^2 + 5x - 6) + (x^2 - 17x + 72) \\ &= 4x^2 + 20x - 24 + x^2 - 17x + 72 \\ &= 5x^2 + 3x + 48 \end{aligned}$$

$$\textcircled{12} \quad (a+5)(a+1) + 7(a+1)^2$$

$$\begin{aligned} &= (a^2 + 6a + 5) + 7(a^2 + 2a + 1) \\ &= a^2 + 6a + 5 + 7a^2 + 14a + 7 \\ &= 8a^2 + 20a + 12 \end{aligned}$$