

# 乗法の公式 (2)

学習日 月 日

年 組 番 氏名

## POINT

### 乗法の公式①

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

(1) 次の  にあてはまる数や式を答えなさい。

①  $(x+2)(x+3)$

$$= x^2 + \left( \boxed{\phantom{00}} + \boxed{\phantom{00}} \right) x + \boxed{\phantom{00}} \times \boxed{\phantom{00}}$$

$$= \boxed{\phantom{000000}}$$

②  $(x-7)(x+8)$

$$= x^2 + \left( \boxed{\phantom{00}} + \boxed{\phantom{00}} \right) x + \boxed{\phantom{00}} \times \boxed{\phantom{00}}$$

$$= \boxed{\phantom{000000}}$$

③  $(x+9)(x-5)$

$$= x^2 + \left( \boxed{\phantom{00}} + \boxed{\phantom{00}} \right) x + \boxed{\phantom{00}} \times \boxed{\phantom{00}}$$

$$= \boxed{\phantom{000000}}$$

④  $(x-2y)(x+6y)$

$$= x^2 + \left( \boxed{\phantom{00}} + \boxed{\phantom{00}} \right) x + \boxed{\phantom{00}} \times \boxed{\phantom{00}}$$

$$= \boxed{\phantom{000000}}$$

⑤  $(3x-2y)(3x+7y)$

$$= \boxed{\phantom{00}} x^2 + \left( \boxed{\phantom{00}} + \boxed{\phantom{00}} \right) x + \boxed{\phantom{00}} \times \boxed{\phantom{00}} + \boxed{\phantom{00}} \times \boxed{\phantom{00}}$$

$$= \boxed{\phantom{000000}}$$

(2) 次の式を展開しなさい。

①  $(x+1)(x-3)$

②  $(x+5)(x+6)$

③  $(x-6)(x+3)$

④  $(x-8)(x-9)$

⑤  $(x+7)(x-4)$

⑥  $(x-2)(x-10)$

(3) 次の式を展開しなさい。

①  $(x+5y)(x+2y)$

②  $(x-8y)(x-y)$

③  $(x+3y)(x-4y)$

④  $(a-2b)(a+9b)$

(4) 次の式を展開しなさい。

①  $(3x+5y)(3x-7y)$

②  $(ab+6c)(ab+7c)$

# 乗法の公式 (2)

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### 乗法の公式①

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

(1) 次の□にあてはまる数や式を答えなさい。

$$\begin{aligned} \textcircled{1} (x+2)(x+3) \\ = x^2 + (\boxed{2} + \boxed{3})x + \boxed{2} \times \boxed{3} \\ = \boxed{x^2 + 5x + 6} \end{aligned}$$

$$\begin{aligned} \textcircled{2} (x-7)(x+8) \\ = x^2 + (\boxed{-7} + \boxed{8})x + \boxed{-7} \times \boxed{8} \\ = \boxed{x^2 + x - 56} \end{aligned}$$

$$\begin{aligned} \textcircled{3} (x+9)(x-5) \\ = x^2 + (\boxed{9} + \boxed{-5})x + \boxed{9} \times \boxed{-5} \\ = \boxed{x^2 + 4x - 45} \end{aligned}$$

$$\begin{aligned} \textcircled{4} (x-2y)(x+6y) \\ = x^2 + (\boxed{-2y} + \boxed{6y})x + \boxed{-2y} \times \boxed{6y} \\ = \boxed{x^2 + 4xy - 12y^2} \end{aligned}$$

$$\begin{aligned} \textcircled{5} (3x-2y)(3x+7y) \\ = \boxed{9}x^2 + (\boxed{-2y} + \boxed{7y}) \times \boxed{3x} + \boxed{-2y} \times \boxed{7y} \\ = \boxed{9x^2 + 15xy - 14y^2} \end{aligned}$$

(2) 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} (x+1)(x-3) \\ = x^2 - 2x - 3 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (x+5)(x+6) \\ = x^2 + 11x + 30 \end{aligned}$$

$$\begin{aligned} \textcircled{3} (x-6)(x+3) \\ = x^2 - 3x - 18 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (x-8)(x-9) \\ = x^2 - 17x + 72 \end{aligned}$$

$$\begin{aligned} \textcircled{5} (x+7)(x-4) \\ = x^2 + 3x - 28 \end{aligned}$$

$$\begin{aligned} \textcircled{6} (x-2)(x-10) \\ = x^2 - 12x + 20 \end{aligned}$$

(3) 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} (x+5y)(x+2y) \\ = x^2 + 7xy + 10y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (x-8y)(x-y) \\ = x^2 - 9xy + 8y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{3} (x+3y)(x-4y) \\ = x^2 - xy - 12y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (a-2b)(a+9b) \\ = a^2 + 7ab - 18b^2 \end{aligned}$$

(4) 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} (3x+5y)(3x-7y) \\ = 9x^2 - 6xy - 35y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (ab+6c)(ab+7c) \\ = a^2b^2 + 13abc + 42c^2 \end{aligned}$$