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乗法公式

年 組 番 名前

● 例題 1 ●

次の式を展開しなさい。

$$\begin{aligned} (1) (x-3)^2 \\ = x^2 + 2 \times (-3) \times x + (-3)^2 \\ = \underline{x^2 - 6x + 9} \quad \rightarrow 81 \sim \end{aligned}$$

問1 次の式を展開しなさい。

$$\begin{aligned} (1) (x+1)^2 \\ = x^2 + 2 \times x \times 1 + 1^2 \\ = x^2 + 2x + 1 \\ \text{答. } \underline{x^2 + 2x + 1} \end{aligned}$$

$$\begin{aligned} (2) (x-2)^2 \\ = x^2 + 2 \times x \times (-2) + (-2)^2 \\ = x^2 - 4x + 4 \\ \text{答. } \underline{x^2 - 4x + 4} \end{aligned}$$

$$\begin{aligned} (3) (a+5)^2 \\ = a^2 + 2 \times a \times 5 + 5^2 \\ = a^2 + 10a + 25 \\ \text{答. } \underline{a^2 + 10a + 25} \end{aligned}$$

$$\begin{aligned} (4) (m+9)^2 \\ = m^2 + 2 \times m \times 9 + 9^2 \\ = m^2 + 18m + 81 \\ \text{答. } \underline{m^2 + 18m + 81} \end{aligned}$$

$$\begin{aligned} (5) \left(x - \frac{1}{3}\right)^2 \\ = x^2 + 2 \times x \times \left(-\frac{1}{3}\right) + \left(-\frac{1}{3}\right)^2 \\ = x^2 - \frac{2}{3}x + \frac{1}{9} \\ \text{答. } \underline{x^2 - \frac{2}{3}x + \frac{1}{9}} \end{aligned}$$

$$\begin{aligned} (6) (8-x)^2 \\ = 8^2 + 2 \times 8 \times (-x) + (-x)^2 \\ = 64 - 16x + x^2 \\ \text{答. } \underline{64 - 16x + x^2} \end{aligned}$$

$$\begin{aligned} (7) (x+y)^2 \\ = x^2 + 2 \times x \times y + y^2 \\ = x^2 + 2xy + y^2 \\ \text{答. } \underline{x^2 + 2xy + y^2} \end{aligned}$$

$$\begin{aligned} (8) (a-b)^2 \\ = a^2 + 2 \times a \times (-b) + (-b)^2 \\ = a^2 - 2ab + b^2 \\ \text{答. } \underline{a^2 - 2ab + b^2} \end{aligned}$$

● 例題 2 ●

次の式を展開しなさい。

$$\begin{aligned} (1) (x+3)(x-3) \\ = x^2 - 3^2 \\ = \underline{x^2 - 9} \quad \rightarrow 81 \sim \end{aligned}$$

問2 次の式を展開しなさい。

$$\begin{aligned} (1) (x+1)(x-1) \\ = x^2 - 1^2 \\ = x^2 - 1 \\ \text{答. } \underline{x^2 - 1} \end{aligned}$$

$$\begin{aligned} (2) (x-7)(x+7) \\ = x^2 - 7^2 \\ = x^2 - 49 \\ \text{答. } \underline{x^2 - 49} \end{aligned}$$

$$\begin{aligned} (3) (y+6)(y-6) \\ = y^2 - 6^2 \\ = y^2 - 36 \\ \text{答. } \underline{y^2 - 36} \end{aligned}$$

$$\begin{aligned} (4) (2+x)(2-x) \\ = 2^2 - x^2 \\ = 4 - x^2 \\ \text{答. } \underline{4 - x^2} \end{aligned}$$

$$\begin{aligned} (5) \left(x + \frac{1}{2}\right)\left(x - \frac{1}{2}\right) \\ = x^2 - \left(\frac{1}{2}\right)^2 \\ = x^2 - \frac{1}{4} \\ \text{答. } \underline{x^2 - \frac{1}{4}} \end{aligned}$$

$$\begin{aligned} (6) (x-0.3)(x+0.3) \\ = x^2 - 0.3^2 \\ = x^2 - 0.09 \\ \text{答. } \underline{x^2 - 0.09} \end{aligned}$$

$$\begin{aligned} (7) (a-b)(a+b) \\ = a^2 - b^2 \\ \text{答. } \underline{a^2 - b^2} \end{aligned}$$

$$\begin{aligned} (8) (x-5)(5+x) \\ = (x-5)(x+5) \\ = x^2 - 5^2 \\ = x^2 - 25 \\ \text{答. } \underline{x^2 - 25} \end{aligned}$$