

乗法の公式

解答

1. 次の式を展開しなさい。

$$(1) \quad (x + 3)(x - 3) = x^2 - 9$$

$$(2) \quad (a + 1)(a - 1) = a^2 - 1$$

$$(3) \quad (4x - 9)(4x + 9) = 16x^2 - 81$$

$$(4) \quad (5x + 8y)(5x - 8y) = 25x^2 - 64y^2$$

$$(5) \quad \left(x - \frac{1}{2}\right)\left(x + \frac{1}{2}\right) = x^2 - \frac{1}{4}$$

$$(6) \quad (a - 4b)(4b + a) = a^2 - 16b^2$$

2. 次の式を簡単にしなさい。

$$\begin{aligned}(1) \quad & (x - 3)^2 - (x - 5)(x - 5) \\ &= x^2 - 6x + 9 - (x^2 - 10x + 25) \\ &= x^2 - 6x + 9 - x^2 + 10x - 25 \\ &= 4x - 16\end{aligned}$$

$$\begin{aligned}(2) \quad & (x - 8)(x + 4) - x(x + 6) \\ &= x^2 - 4x - 32 - (x^2 + 6x) \\ &= x^2 - 4x - 32 - x^2 - 6x \\ &= -10x - 32\end{aligned}$$