

年 組 番 名前

／ 6

次の式を、乗法公式を使って解きなさい。

$$\begin{aligned}
 [1] \quad & (5x + 3y)(5x - 3y) \quad \text{公式④} \\
 &= (5x)^2 - (3y)^2 \\
 &= 25x^2 - 9y^2
 \end{aligned}$$

2乗ひく2乗です！

$$\begin{aligned}
 [2] \quad & (6x - 2)(6x - 3) \quad \text{公式①} \\
 & 6x = A \text{ とおく} \\
 &= (A - 2)(A - 3) \\
 &= A^2 - 5A + 6 \\
 &= (6x)^2 - 5 \times 6x + 6 \\
 &= 36x^2 - 30x + 6
 \end{aligned}$$

$$\begin{aligned}
 [3] \quad & (9a + 2b)^2 \quad \text{公式②} \\
 & 9a = A, 2b = B \text{ とおく} \\
 &= (A + B)^2 \\
 &= A^2 + 2AB + B^2 \\
 &= (9a)^2 + 2 \times 9a \times 2b + (2b)^2 \\
 &= 81a^2 + 36ab + 4b^2
 \end{aligned}$$

$$\begin{aligned}
 [4] \quad & (2x - 4y)^2 \quad \text{公式③} \\
 & 2x = A, 4y = B \text{ とおく} \\
 &= (A - B)^2 \\
 &= A^2 - 2AB + B^2 \\
 &= (2x)^2 - 2 \times 2x \times 4y + (4y)^2 \\
 &= 4x^2 - 16xy + 16y^2
 \end{aligned}$$

$$\begin{aligned}
 [5] \quad & (7a + 4b)(7a - b) \quad \text{公式①} \\
 & 7a = A \text{ とおく} \\
 &= (A + 4b)(A - b) \\
 &= A^2 + 3bA - 4b^2 \\
 &= (7a)^2 + 3b \times 7a - 4b^2 \\
 &= 49a^2 + 21ab - 4b^2
 \end{aligned}$$

$$\begin{aligned}
 [6] \quad & (4x - 5y)(4x + 5y) \quad \text{公式④} \\
 &= (4x)^2 - (5y)^2 \\
 &= 16x^2 - 25y^2
 \end{aligned}$$