

< 因数分解の解き方 3 >

問1 次の式を因数分解しなさい。

$x^2 - 5x + 6 =$

$x^2 - 3x - 10 =$

$x^2 - x - 20 =$

$x^2 - 8x - 20 =$

$x^2 + 6x + 9 =$

$x^2 - 10x + 25 =$

乗法公式 2・3 を利用する

$$\begin{array}{c} \text{積} \\ (x \pm a)^2 = x^2 \pm 2ax + a^2 \\ \text{2乗} \quad \text{2乗} \end{array}$$

公式 2・3 を逆にすると

$$x^2 \pm 2ax + a^2 = (x \pm a)^2$$

$$\begin{array}{c} x^2 + 8x + 16 \\ \quad \swarrow \quad \searrow \\ \quad 2 \text{倍} \quad 4 \text{平方} \\ = (x + 4)^2 \end{array}$$

$$\begin{array}{c} a^2 - 14x + 49 \\ \quad \swarrow \quad \searrow \\ \quad 2 \text{倍} \quad 7 \text{平方} \\ = (a - 7)^2 \end{array}$$

問2 次の式を因数分解しなさい。

$$\begin{array}{l} x^2 + 20x + 100 \\ = \end{array}$$

$$\begin{array}{l} x^2 - 2x + 1 \\ = \end{array}$$

$$\begin{array}{l} x^2 + 4x + 4 \\ = \end{array}$$

$$\begin{array}{l} x^2 - 18x + 81 \\ = \end{array}$$

$$\begin{array}{l} y^2 + 16y + 64 \\ = \end{array}$$

$$\begin{array}{l} x^2 + 22x + 121 \\ = \end{array}$$

$$\begin{array}{l} a^2 - 0.2a + 0.01 \\ = \end{array}$$

$$\begin{array}{l} x^2 - x + \frac{1}{4} \\ = \end{array}$$

$$\begin{array}{l} x^2 + 14x + 49 \\ = \end{array}$$