

● 例題 16 式の値

教科書 p.55

次の問に答えなさい。

(1) $x=\sqrt{2}+3$, $y=\sqrt{2}-3$ のとき, x^2+xy の値を求めなさい。

(2) $x=\sqrt{5}+3$ のとき, x^2-6x+5 の値を求めなさい。

How () をつけて代入する。

$$\begin{aligned}
 (1) \quad & x^2 + xy \\
 &= x \cdot x + x \cdot y \\
 &= (\sqrt{2}+3)(\sqrt{2}+3) + (\sqrt{2}+3)(\sqrt{2}-3) \\
 &= \sqrt{2}^2 + 3\sqrt{2} + 3\sqrt{2} + 3^2 + (\sqrt{2}^2 - 3^2) \\
 &= 2 + 6\sqrt{2} + 9 + 2 - 9 \\
 &= 4 + 6\sqrt{2}
 \end{aligned}$$

$\left. \begin{array}{l} \times \\ \div \\ \leftarrow \end{array} \right\} x, y$
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} ()$ をつけて代入
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \sqrt{2}^2$
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \text{セット対す.}$
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \text{加減}$

$$\begin{aligned}
 (2) \quad & x^2 - 6x + 5 \\
 &= (x-1)(x-5) \\
 &= (\sqrt{5}+3-1)(\sqrt{5}+3-5) \\
 &= (\sqrt{5}+2)(\sqrt{5}-2) \\
 &= \sqrt{5}^2 - 2^2 \\
 &= 5 - 4 \\
 &= 1.
 \end{aligned}$$

$\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \text{因数分解}$
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} ()$ をつけて代入
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \text{整理}$
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \text{展開}$
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \sqrt{5}^2 \text{ と } 2^2 \text{ をセット対す.}$
 $\left. \begin{array}{l} \leftarrow \\ \leftarrow \end{array} \right\} \text{加減}$