

平方根を利用した解法

NO.1

名前

/ 点

1 次の2次方程式を解きなさい。

① $x^2 = 4$

② $x^2 = 25$

③ $x^2 = 5$

④ $x^2 = 11$

⑤ $2x^2 = 32$

⑥ $4x^2 = 40$

⑦ $6x^2 - 54 = 0$

⑧ $16x^2 - 12 = 0$

2 次の2次方程式を解きなさい。

① $(x + 1)^2 = 36$

② $(x - 1)^2 = 3$

③ $(x + 5)^2 - 4 = 0$

④ $(x - 2)^2 - 17 = 0$

解答

1

$$\begin{aligned} \textcircled{1} \quad x^2 &= 4 \\ x &= \pm 2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad x^2 &= 25 \\ x &= \pm 5 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad x^2 &= 5 \\ x &= \pm \sqrt{5} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad x^2 &= 11 \\ x &= \pm \sqrt{11} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad 2x^2 &= 32 \\ x^2 &= 16 \\ x &= \pm 4 \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 4x^2 &= 40 \\ x^2 &= 10 \\ x &= \pm \sqrt{10} \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad 6x^2 - 54 &= 0 \\ 6x^2 &= 54 \\ x^2 &= 9 \\ x &= \pm 3 \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad 16x^2 - 12 &= 0 \\ 16x^2 &= 12 \\ x^2 &= \frac{3}{4} \\ x &= \pm \frac{\sqrt{3}}{2} \end{aligned}$$

2

$$\begin{aligned} \textcircled{1} \quad (x+1)^2 &= 36 \\ x+1 &= \pm 6 \\ x+1 &= 6 \quad \text{のとき} & x &= 5 \\ x+1 &= -6 \quad \text{のとき} & x &= -7 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad (x-1)^2 &= 3 \\ x-1 &= \pm \sqrt{3} \\ x &= 1 \pm \sqrt{3} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad (x+5)^2 &= 4 \\ x+5 &= \pm 2 \\ x+5 &= 2 \quad \text{のとき} & x &= -3 \\ x+5 &= -2 \quad \text{のとき} & x &= -7 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad (x-2)^2 &= 17 \\ x-2 &= \pm \sqrt{17} \\ x &= 2 \pm \sqrt{17} \end{aligned}$$