

2次方程式 [平方根の考えを使った解き方]

<演習問題>

次の方程式を解け。

(1) $x^2 - 9 = 0$

(8) $(x - 3)^2 = 25$

(2) $x^2 - 3 = 0$

(9) $(x + 5)^2 = 36$

(3) $x^2 - 5 = 0$

(10) $(x - 4)^2 = 2$

(4) $x^2 - 8 = 0$

(11) $(x + 1)^2 = 12$

(5) $x^2 - 18 = 0$

(12) $(x - 7)^2 = 50$

(6) $x^2 - 24 = 0$

(13) $16x^2 = 3$

(7) $(x - 1)^2 = 16$

2次方程式 [平方根の考えを使った解き方]

<演習問題>

次の方程式を解け。

(1) $x^2 - 9 = 0$

$$\begin{aligned}x^2 - 9 &= 0 \\x^2 &= 9 \\x &= \pm 3\end{aligned}$$

(2) $x^2 - 3 = 0$

$$\begin{aligned}x^2 - 3 &= 0 \\x^2 &= 3 \\x &= \pm\sqrt{3}\end{aligned}$$

(3) $x^2 - 5 = 0$

$$\begin{aligned}x^2 - 5 &= 0 \\x^2 &= 5 \\x &= \pm\sqrt{5}\end{aligned}$$

(4) $x^2 - 8 = 0$

$$\begin{aligned}x^2 - 8 &= 0 \\x^2 &= 8 \\x &= \pm\sqrt{8} \\x &= \pm 2\sqrt{2}\end{aligned}$$

(5) $x^2 - 18 = 0$

$$\begin{aligned}x^2 - 18 &= 0 \\x^2 &= 18 \\x &= \pm\sqrt{18} \\x &= \pm 3\sqrt{2}\end{aligned}$$

(6) $x^2 - 24 = 0$

$$\begin{aligned}x^2 - 24 &= 0 \\x^2 &= 24 \\x &= \pm\sqrt{24} \\x &= \pm 2\sqrt{6}\end{aligned}$$

(7) $(x - 1)^2 = 16$

$$\begin{aligned}(x - 1)^2 &= 16 \\x - 1 &= \pm 4 \\x &= 1 \pm 4 \\x &= 5, -3\end{aligned}$$

(8) $(x - 3)^2 = 25$

$$\begin{aligned}(x - 3)^2 &= 25 \\x - 3 &= \pm 5 \\x &= 3 \pm 5 \\x &= 8, -2\end{aligned}$$

(9) $(x + 5)^2 = 36$

$$\begin{aligned}(x + 5)^2 &= 36 \\x + 5 &= \pm 6 \\x &= -5 \pm 6 \\x &= 1, -11\end{aligned}$$

(10) $(x - 4)^2 = 2$

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

(11) $(x + 1)^2 = 12$

$$\begin{aligned}(x + 1)^2 &= 12 \\x + 1 &= \pm\sqrt{12} \\x &= -1 \pm 2\sqrt{3}\end{aligned}$$

(12) $(x - 7)^2 = 50$

$$\begin{aligned}(x - 7)^2 &= 50 \\x - 7 &= \pm\sqrt{50} \\x &= 7 \pm 5\sqrt{2}\end{aligned}$$

(13) $16x^2 = 3$

$$\begin{aligned}16x^2 &= 3 \\x^2 &= \frac{3}{16} \\x &= \pm\sqrt{\frac{3}{16}} \\x &= \pm\frac{\sqrt{3}}{4}\end{aligned}$$