

反射テスト 2次方程式 基本形 02

1. 次の方程式を解け。(S級40秒, A級1分10秒, B級2分20秒, C級4分)

(1) $x^2 - 324 = 0$

(2) $x^2 = \frac{4}{25}$

(3) $5x^2 = 100$

(4) $36x^2 = 1$

(5) $2x^2 - 24 = 0$

(6) $8x^2 - 225 = 0$

2. 次の方程式を解け。(S級40秒, A級1分10秒, B級2分20秒, C級4分)

(1) $x^2 - 289 = 0$

(2) $x^2 = \frac{9}{25}$

(3) $10x^2 = 400$

(4) $81x^2 = 1$

(5) $2x^2 - 36 = 0$

(6) $27x^2 - 196 = 0$

反射テスト 2次方程式 基本形 02 解答解説

1. 次の方程式を解け。(S級40秒, A級1分10秒, B級2分20秒, C級4分)

(1) $x^2 - 324 = 0$

$$x^2 = 324$$

$$x = \pm 18$$

☆ $18^2 = 324$

(2) $x^2 = \frac{4}{25}$

$$x = \pm \frac{2}{5}$$

(3) $5x^2 = 100$

$$x^2 = 20 \quad \leftarrow \text{両辺} \div 5$$

$$x = \pm \sqrt{20}$$

$$x = \pm 2\sqrt{5}$$

(4) $36x^2 = 1$

$$x^2 = \frac{1}{36} \quad \leftarrow \text{両辺} \div 36$$

$$x = \pm \frac{1}{6}$$

(5) $2x^2 - 24 = 0$

$$2x^2 = 24$$

$$x^2 = 12 \quad \leftarrow \text{両辺} \div 2$$

$$x = \pm \sqrt{12}$$

$$x = \pm 2\sqrt{3}$$

☆ $\sqrt{12} = \sqrt{2^2 \times 3}$

(6) $8x^2 - 225 = 0$

$$8x^2 = 225$$

$$x^2 = \frac{225}{8} \quad \leftarrow \text{両辺} \div 8$$

$$x = \pm \frac{15}{\sqrt{8}} \quad \leftarrow 15^2 = 225$$

$$x = \pm \frac{15}{2\sqrt{2}}$$

$$x = \pm \frac{15 \times \sqrt{2}}{2\sqrt{2} \times \sqrt{2}}$$

$$x = \pm \frac{15\sqrt{2}}{4}$$

2. 次の方程式を解け。(S級40秒, A級1分10秒, B級2分20秒, C級4分)

(1) $x^2 - 289 = 0$

$$x^2 = 289$$

$$x = \pm 17$$

☆ $17^2 = 289$

(2) $x^2 = \frac{9}{25}$

$$x = \pm \frac{3}{5}$$

(3) $10x^2 = 400$

$$x^2 = 40 \quad \leftarrow \text{両辺} \div 10$$

$$x = \pm \sqrt{40}$$

$$x = \pm 2\sqrt{10}$$

☆ $\sqrt{40} = \sqrt{2^2 \times 10}$

(4) $81x^2 = 1$

$$x^2 = \frac{1}{81}$$

$$x = \pm \frac{1}{9}$$

(5) $2x^2 - 36 = 0$

$$2x^2 = 36$$

$$x^2 = 18$$

$$x = \pm \sqrt{18}$$

$$x = \pm 3\sqrt{2}$$

☆ $\sqrt{18} = \sqrt{3^2 \times 2}$

(6) $27x^2 - 196 = 0$

$$27x^2 = 196$$

$$x^2 = \frac{196}{27}$$

$$x = \pm \frac{14}{\sqrt{27}}$$

$$x = \pm \frac{14}{3\sqrt{3}}$$

$$x = \pm \frac{14 \times \sqrt{3}}{3\sqrt{3} \times \sqrt{3}}$$

$$x = \pm \frac{14\sqrt{3}}{9}$$