

反射テスト 平方根 $\sqrt{\quad}$ の除算 01

1. 次の計算をせよ. ただし, $\sqrt{\quad}$ の中は簡単にし, 分母は有理化すること.

(S 級 25 秒, A 級 45 秒, B 級 1 分 10 秒, C 級 1 分 40 秒)

(1) $\sqrt{10} \div \sqrt{2}$

(2) $\sqrt{5} \div \sqrt{5}$

(3) $\sqrt{12} \div \sqrt{3}$

(4) $\sqrt{48} \div \sqrt{6}$

(5) $12\sqrt{3} \div 2\sqrt{3}$

(6) $36\sqrt{6} \div 9\sqrt{3}$

(7) $\sqrt{2} \div \sqrt{6}$

(8) $\sqrt{18} \div \sqrt{30}$

(9) $6\sqrt{5} \div 2\sqrt{15}$

2. 次の計算をせよ. ただし, $\sqrt{\quad}$ の中は簡単にし, 分母は有理化すること.

(S 級 35 秒, A 級 50 秒, B 級 1 分 20 秒, C 級 2 分)

(1) $\sqrt{14} \div \sqrt{2}$

(2) $\sqrt{3} \div \sqrt{3}$

(3) $\sqrt{18} \div \sqrt{2}$

(4) $\sqrt{120} \div \sqrt{10}$

(5) $12\sqrt{5} \div 6\sqrt{5}$

(6) $36\sqrt{15} \div 4\sqrt{3}$

(7) $\sqrt{6} \div \sqrt{30}$

(8) $\sqrt{60} \div \sqrt{21}$

(9) $32\sqrt{5} \div 8\sqrt{10}$

反射テスト 平方根 $\sqrt{\quad}$ の除算 01 解答解説

1. 次の計算をせよ. ただし, $\sqrt{\quad}$ の中は簡単にし, 分母は有理化すること.

(S級 25 秒, A級 45 秒, B級 1 分 10 秒, C級 1 分 40 秒)

★ $\sqrt{\quad}$ の除算は中で割り算

例 $\sqrt{35} \div \sqrt{5} = \sqrt{35 \div 5} = \sqrt{7}$

$$\begin{aligned} (1) \quad & \sqrt{10} \div \sqrt{2} \\ & = \sqrt{5} \end{aligned}$$

$$\begin{aligned} (2) \quad & \sqrt{5} \div \sqrt{5} \\ & = 1 \end{aligned}$$

$$\begin{aligned} (3) \quad & \sqrt{12} \div \sqrt{3} \\ & = \sqrt{4} \\ & = 2 \end{aligned}$$

$$\begin{aligned} (4) \quad & \sqrt{48} \div \sqrt{6} \\ & = \sqrt{8} \\ & = 2\sqrt{2} \end{aligned}$$

$$\begin{aligned} (5) \quad & 12\sqrt{3} \div 2\sqrt{3} \\ & = \frac{12\sqrt{3}}{2\sqrt{3}} \\ & = 6 \end{aligned}$$

$$\begin{aligned} (6) \quad & 36\sqrt{6} \div 9\sqrt{3} \\ & = \frac{36\sqrt{6}}{9\sqrt{3}} \\ & = 4\sqrt{2} \end{aligned}$$

$$\begin{aligned} (7) \quad & \sqrt{2} \div \sqrt{6} \\ & = \frac{\sqrt{2}}{\sqrt{6}} \\ & = \frac{1}{\sqrt{3}} \\ & = \frac{1 \times \sqrt{3}}{\sqrt{3} \times 3} \\ & = \frac{\sqrt{3}}{3} \end{aligned}$$

$$\begin{aligned} (8) \quad & \sqrt{18} \div \sqrt{30} \\ & = \frac{\sqrt{18}}{\sqrt{30}} \\ & = \frac{\sqrt{3}}{\sqrt{5}} \\ & = \frac{\sqrt{3} \times \sqrt{5}}{\sqrt{5} \times \sqrt{5}} \\ & = \frac{\sqrt{15}}{5} \end{aligned}$$

$$\begin{aligned} (9) \quad & 6\sqrt{5} \div 2\sqrt{15} \\ & = \frac{6\sqrt{5}}{2\sqrt{15}} \\ & = \frac{3}{\sqrt{3}} \\ & = \frac{3 \times \sqrt{3}}{\sqrt{3} \times \sqrt{3}} \\ & = \frac{3\sqrt{3}}{3} \\ & = \sqrt{3} \end{aligned}$$

2. 次の計算をせよ. ただし, $\sqrt{\quad}$ の中は簡単にし, 分母は有理化すること.

(S 級 35 秒, A 級 50 秒, B 級 1 分 20 秒, C 級 2 分)

$$\begin{aligned} (1) \quad & \sqrt{14} \div \sqrt{2} \\ & = \sqrt{7} \end{aligned}$$

$$\begin{aligned} (2) \quad & \sqrt{3} \div \sqrt{3} \\ & = 1 \end{aligned}$$

$$\begin{aligned} (3) \quad & \sqrt{18} \div \sqrt{2} \\ & = \sqrt{9} \\ & = 3 \end{aligned}$$

$$\begin{aligned} (4) \quad & \sqrt{120} \div \sqrt{10} \\ & = \sqrt{12} \\ & = 2\sqrt{3} \end{aligned}$$

$$\begin{aligned} (5) \quad & 12\sqrt{5} \div 6\sqrt{5} \\ & = \frac{12\sqrt{5}}{6\sqrt{5}} \\ & = 2 \end{aligned}$$

$$\begin{aligned} (6) \quad & 36\sqrt{15} \div 4\sqrt{3} \\ & = \frac{36\sqrt{15}}{4\sqrt{3}} \\ & = 9\sqrt{5} \end{aligned}$$

$$\begin{aligned} (7) \quad & \sqrt{6} \div \sqrt{30} \\ & = \frac{\sqrt{6}}{\sqrt{30}} \\ & = \frac{1}{\sqrt{5}} \\ & = \frac{1 \times \sqrt{5}}{\sqrt{5} \times 5} \\ & = \frac{\sqrt{5}}{5} \end{aligned}$$

$$\begin{aligned} (8) \quad & \sqrt{60} \div \sqrt{21} \\ & = \frac{\sqrt{60}}{\sqrt{21}} \\ & = \frac{\sqrt{20}}{\sqrt{7}} \\ & = \frac{2\sqrt{5}}{\sqrt{7}} \\ & = \frac{2\sqrt{5} \times \sqrt{7}}{\sqrt{7} \times \sqrt{7}} \\ & = \frac{2\sqrt{35}}{7} \end{aligned}$$

$$\begin{aligned} (9) \quad & 32\sqrt{5} \div 8\sqrt{10} \\ & = \frac{32\sqrt{5}}{8\sqrt{10}} \\ & = \frac{4}{\sqrt{2}} \\ & = \frac{4 \times \sqrt{2}}{\sqrt{2} \times \sqrt{2}} \\ & = \frac{4\sqrt{2}}{2} \\ & = 2\sqrt{2} \end{aligned}$$