

平方根の乗法・除法の練習

学習日 月 日

年 組 番 氏名

(1) 次の計算をなさい。

① $\frac{\sqrt{7}}{5\sqrt{3}}$

② $\frac{\sqrt{3}}{4\sqrt{6}}$

⑦ $\sqrt{96} \times (-5\sqrt{12}) \div (-\sqrt{9})$

⑧ $\sqrt{3} \div (-\sqrt{2})^2 \times \sqrt{6}$

③ $\sqrt{72} \div \sqrt{6} \div \sqrt{3}$

④ $\sqrt{21} \div \sqrt{28} \times 2\sqrt{3}$

⑨ $\frac{\sqrt{3}}{2} \times \sqrt{\frac{8}{15}}$

⑩ $\sqrt{\frac{7}{8}} \times \sqrt{\frac{9}{14}} \div \sqrt{27}$

⑤ $\sqrt{24} \div (-3\sqrt{2}) \times \sqrt{15}$

⑥ $2\sqrt{18} \times \sqrt{6} \div (-\sqrt{12})$

⑪ $\frac{6}{\sqrt{12}} \times \frac{10}{\sqrt{72}} \div \sqrt{32}$

⑫ $\frac{1}{\sqrt{12}} \div \frac{1}{5\sqrt{2}} \div 3\sqrt{2}$

平方根の乗法・除法の練習

学習日 月 日

年 組 番 氏名

(1) 次の計算をなさい。

$$\begin{aligned} \textcircled{1} \quad & \frac{\sqrt{7}}{5\sqrt{3}} \\ &= \frac{\sqrt{7} \times \sqrt{3}}{5\sqrt{3} \times \sqrt{3}} \\ &= \frac{\sqrt{21}}{15} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & \frac{\sqrt{3}}{4\sqrt{6}} \\ &= \frac{\sqrt{3}}{4\sqrt{6}} \times \frac{\sqrt{6}}{\sqrt{6}} \\ &= \frac{3\sqrt{2}}{4 \times 6} \\ &= \frac{\sqrt{2}}{8} \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad & \sqrt{96} \times (-5\sqrt{12}) \div (-\sqrt{9}) \\ &= \frac{4\sqrt{6} \times 5 \times 2\sqrt{3}}{3} \\ &= 40\sqrt{2} \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad & \sqrt{3} \div (-\sqrt{2})^2 \times \sqrt{6} \\ &= \frac{\sqrt{3} \times \sqrt{6}}{2} \\ &= \frac{3\sqrt{2}}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & \sqrt{72} \div \sqrt{6} \div \sqrt{3} \\ &= \frac{\sqrt{12 \times 6}}{\sqrt{6} \times \sqrt{3}} \\ &= 2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & \sqrt{21} \div \sqrt{28} \times 2\sqrt{3} \\ &= \frac{\sqrt{3 \times 7} \times 2\sqrt{3}}{\sqrt{4 \times 7}} \\ &= 3 \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad & \frac{\sqrt{3}}{2} \times \sqrt{\frac{8}{15}} \\ &= \frac{\sqrt{3}}{2} \times \frac{2\sqrt{2}}{\sqrt{3} \times \sqrt{5}} \\ &= \frac{\sqrt{2}}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} \\ &= \frac{\sqrt{10}}{5} \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad & \sqrt{\frac{7}{8}} \times \sqrt{\frac{9}{14}} \div \sqrt{27} \\ &= \frac{\sqrt{7}}{2\sqrt{2}} \times \frac{3}{\sqrt{7} \times \sqrt{2}} \times \frac{1}{3\sqrt{3}} \\ &= \frac{1}{4\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} \\ &= \frac{\sqrt{3}}{12} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad & \sqrt{24} \div (-3\sqrt{2}) \times \sqrt{15} \\ &= -\frac{\sqrt{6 \times 4} \times \sqrt{5 \times 3}}{3\sqrt{2}} \\ &= -2\sqrt{5} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & 2\sqrt{18} \times \sqrt{6} \div (-\sqrt{12}) \\ &= -\frac{2 \times 3\sqrt{2} \times \sqrt{6}}{2\sqrt{3}} \\ &= -6 \end{aligned}$$

$$\begin{aligned} \textcircled{11} \quad & \frac{6}{\sqrt{12}} \times \frac{10}{\sqrt{72}} \div \sqrt{32} \\ &= \frac{6}{2\sqrt{3}} \times \frac{10}{6\sqrt{2}} \times \frac{1}{4\sqrt{2}} \\ &= \frac{5}{8\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} \\ &= \frac{5\sqrt{3}}{24} \end{aligned}$$

$$\begin{aligned} \textcircled{12} \quad & \frac{1}{\sqrt{12}} \div \frac{1}{5\sqrt{2}} \div 3\sqrt{2} \\ &= \frac{1}{2\sqrt{3}} \times \frac{5\sqrt{2}}{1} \times \frac{1}{3\sqrt{2}} \\ &= \frac{5}{6\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} \\ &= \frac{5\sqrt{3}}{18} \end{aligned}$$