

## 平方根 分母の有理化 練習

NO. 2

名前

/ 点

1 次の数を、分母が $\sqrt{\quad}$ をふくまない形に変形しなさい。

① 
$$\frac{3}{\sqrt{6}}$$

② 
$$\frac{2}{\sqrt{5}}$$

③ 
$$\frac{7}{2\sqrt{7}}$$

④ 
$$\frac{3}{5\sqrt{2}}$$

⑤ 
$$\frac{\sqrt{2}}{\sqrt{11}}$$

⑥ 
$$\frac{5\sqrt{2}}{2\sqrt{5}}$$

2 次の数を、分母が $\sqrt{\quad}$ をふくまない形に変形しなさい。

① 
$$\frac{6}{\sqrt{18}}$$

② 
$$\frac{3}{\sqrt{24}}$$

③ 
$$\frac{\sqrt{3} + 1}{\sqrt{5}}$$

④ 
$$\frac{\sqrt{21} + \sqrt{15}}{\sqrt{6}}$$

## 解答

1

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

$$\begin{aligned} \textcircled{2} \quad \frac{2}{\sqrt{5}} &= \frac{2 \times \sqrt{5}}{\sqrt{5} \times \sqrt{5}} \\ &= \frac{2\sqrt{5}}{5} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad \frac{7}{2\sqrt{7}} &= \frac{7 \times \sqrt{7}}{2\sqrt{7} \times \sqrt{7}} \\ &= \frac{7\sqrt{7}}{14} = \frac{\sqrt{7}}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad \frac{3}{5\sqrt{2}} &= \frac{3 \times \sqrt{2}}{5\sqrt{2} \times \sqrt{2}} \\ &= \frac{3\sqrt{2}}{10} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad \frac{\sqrt{2}}{\sqrt{11}} &= \frac{\sqrt{2} \times \sqrt{11}}{\sqrt{11} \times \sqrt{11}} \\ &= \frac{\sqrt{22}}{11} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad \frac{5\sqrt{2}}{2\sqrt{5}} &= \frac{5\sqrt{2} \times \sqrt{5}}{2\sqrt{5} \times \sqrt{5}} \\ &= \frac{5\sqrt{10}}{10} \\ &= \frac{\sqrt{10}}{2} \end{aligned}$$

2

$$\textcircled{1} \quad \frac{6}{\sqrt{18}} = \frac{6}{3\sqrt{2}} = \frac{6 \times \sqrt{2}}{3\sqrt{2} \times \sqrt{2}} = \frac{6\sqrt{2}}{6} = \sqrt{2}$$

$$\textcircled{2} \quad \frac{3}{\sqrt{24}} = \frac{3}{2\sqrt{6}} = \frac{3 \times \sqrt{6}}{2\sqrt{6} \times \sqrt{6}} = \frac{3\sqrt{6}}{12} = \frac{\sqrt{6}}{4}$$

$$\textcircled{3} \quad \frac{\sqrt{3} + 1}{\sqrt{5}} = \frac{\sqrt{5}(\sqrt{3} + 1)}{\sqrt{5} \times \sqrt{5}} = \frac{\sqrt{15} + \sqrt{5}}{5}$$

$$\begin{aligned} \textcircled{4} \quad \frac{\sqrt{21} + \sqrt{15}}{\sqrt{6}} &= \frac{\sqrt{6}(\sqrt{21} + \sqrt{15})}{\sqrt{6} \times \sqrt{6}} = \frac{\sqrt{126} + \sqrt{90}}{6} \\ &= \frac{3\sqrt{14} + 3\sqrt{10}}{6} \\ &= \frac{\sqrt{14} + \sqrt{10}}{2} \end{aligned}$$