平方根　　分母の有理化　練習

NO. 1　　名前　　／　点

1　次の数を，分母が$\sqrt{\ }$をふくまない形に変形しなさい。

① $\dfrac{2}{\sqrt{7}}$　　② $\dfrac{5}{\sqrt{3}}$

③ $\dfrac{3}{2\sqrt{5}}$　　④ $\dfrac{2}{7\sqrt{3}}$

⑤ $\dfrac{\sqrt{3}}{\sqrt{7}}$　　⑥ $\dfrac{2\sqrt{3}}{3\sqrt{2}}$

2　次の数を，分母が$\sqrt{\ }$をふくまない形に変形しなさい。

① $\dfrac{3}{\sqrt{12}}$　　② $\dfrac{5}{\sqrt{45}}$

③ $\dfrac{\sqrt{2}+1}{\sqrt{3}}$　　④ $\dfrac{\sqrt{6}+\sqrt{3}}{\sqrt{2}}$

解答

1

① $\dfrac{2}{\sqrt{7}} = \dfrac{2 \times \sqrt{7}}{\sqrt{7} \times \sqrt{7}} = \dfrac{2\sqrt{7}}{7}$

② $\dfrac{5}{\sqrt{3}} = \dfrac{5 \times \sqrt{3}}{\sqrt{3} \times \sqrt{3}} = \dfrac{5\sqrt{3}}{3}$

③ $\dfrac{3}{2\sqrt{5}} = \dfrac{3 \times \sqrt{5}}{2\sqrt{5} \times \sqrt{5}} = \dfrac{3\sqrt{5}}{10}$

④ $\dfrac{2}{7\sqrt{3}} = \dfrac{2 \times \sqrt{3}}{7\sqrt{3} \times \sqrt{3}} = \dfrac{2\sqrt{3}}{21}$

⑤ $\dfrac{\sqrt{3}}{\sqrt{7}} = \dfrac{\sqrt{3} \times \sqrt{7}}{\sqrt{7} \times \sqrt{7}} = \dfrac{\sqrt{21}}{7}$

⑥ $\dfrac{2\sqrt{3}}{3\sqrt{2}} = \dfrac{2\sqrt{3} \times \sqrt{2}}{3\sqrt{2} \times \sqrt{2}} = \dfrac{2\sqrt{6}}{6} = \dfrac{\sqrt{6}}{3}$

2

① $\dfrac{3}{\sqrt{12}} = \dfrac{3}{2\sqrt{3}} = \dfrac{3 \times \sqrt{3}}{2\sqrt{3} \times \sqrt{3}} = \dfrac{3\sqrt{3}}{6} = \dfrac{\sqrt{3}}{2}$

② $\dfrac{5}{\sqrt{45}} = \dfrac{5}{3\sqrt{5}} = \dfrac{5 \times \sqrt{5}}{3\sqrt{5} \times \sqrt{5}} = \dfrac{5\sqrt{5}}{15} = \dfrac{\sqrt{5}}{3}$

③ $\dfrac{\sqrt{2}+1}{\sqrt{3}} = \dfrac{\sqrt{3}(\sqrt{2}+1)}{\sqrt{3} \times \sqrt{3}} = \dfrac{\sqrt{6}+\sqrt{3}}{3}$

④ $\dfrac{\sqrt{6}+\sqrt{3}}{\sqrt{2}} = \dfrac{\sqrt{2}(\sqrt{6}+\sqrt{3})}{\sqrt{2} \times \sqrt{2}} = \dfrac{\sqrt{12}+\sqrt{6}}{2} = \dfrac{2\sqrt{3}+\sqrt{6}}{2}$