平方根　　分母の有理化　練習

NO. 2　　名前　　／　点

1　次の数を，分母が$\sqrt{\ }$をふくまない形に変形しなさい。

① $\dfrac{3}{\sqrt{6}}$　　② $\dfrac{2}{\sqrt{5}}$

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

⑤ $\dfrac{\sqrt{2}}{\sqrt{11}}$　　⑥ $\dfrac{5\sqrt{2}}{2\sqrt{5}}$

2　次の数を，分母が$\sqrt{\ }$をふくまない形に変形しなさい。

① $\dfrac{6}{\sqrt{18}}$　　② $\dfrac{3}{\sqrt{24}}$

③ $\dfrac{\sqrt{3}+1}{\sqrt{5}}$　　④ $\dfrac{\sqrt{21}+\sqrt{15}}{\sqrt{6}}$

解答

1

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

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

③ $\dfrac{7}{2\sqrt{7}}=\dfrac{7\times\sqrt{7}}{2\sqrt{7}\times\sqrt{7}}=\dfrac{7\sqrt{7}}{14}=\dfrac{\sqrt{7}}{2}$

④ $\dfrac{3}{5\sqrt{2}}=\dfrac{3\times\sqrt{2}}{5\sqrt{2}\times\sqrt{2}}=\dfrac{3\sqrt{2}}{10}$

⑤ $\dfrac{\sqrt{2}}{\sqrt{11}}=\dfrac{\sqrt{2}\times\sqrt{11}}{\sqrt{11}\times\sqrt{11}}=\dfrac{\sqrt{22}}{11}$

⑥ $\dfrac{5\sqrt{2}}{2\sqrt{5}}=\dfrac{5\sqrt{2}\times\sqrt{5}}{2\sqrt{5}\times\sqrt{5}}=\dfrac{5\sqrt{10}}{10}=\dfrac{\sqrt{10}}{2}$

2

① $\dfrac{6}{\sqrt{18}}=\dfrac{6}{3\sqrt{2}}=\dfrac{6\times\sqrt{2}}{3\sqrt{2}\times\sqrt{2}}=\dfrac{6\sqrt{2}}{6}=\sqrt{2}$

② $\dfrac{3}{\sqrt{24}}=\dfrac{3}{2\sqrt{6}}=\dfrac{3\times\sqrt{6}}{2\sqrt{6}\times\sqrt{6}}=\dfrac{3\sqrt{6}}{12}=\dfrac{\sqrt{6}}{4}$

③ $\dfrac{\sqrt{3}+1}{\sqrt{5}}=\dfrac{\sqrt{5}(\sqrt{3}+1)}{\sqrt{5}\times\sqrt{5}}=\dfrac{\sqrt{15}+\sqrt{5}}{5}$

④ $\dfrac{\sqrt{21}+\sqrt{15}}{\sqrt{6}}=\dfrac{\sqrt{6}(\sqrt{21}+\sqrt{15})}{\sqrt{6}\times\sqrt{6}}=\dfrac{\sqrt{126}+\sqrt{90}}{6}=\dfrac{3\sqrt{14}+3\sqrt{10}}{6}=\dfrac{\sqrt{14}+\sqrt{10}}{2}$