

得点		<b>演習問題</b>	実施日	月	日	氏名	
				平方根の計算(加減) ④			

【1】 次の計算をなさい。

①  $5\sqrt{3} - 3\sqrt{3} + 4\sqrt{3}$

②  $3\sqrt{2} + 2\sqrt{3} - \sqrt{2} - 3\sqrt{3}$

③  $\sqrt{75} + 2\sqrt{3}$

④  $\sqrt{45} + \sqrt{20}$

⑤  $\sqrt{80} - \sqrt{20}$

⑥  $\sqrt{12} + \sqrt{27}$

⑦  $\sqrt{175} - \sqrt{28}$

⑧  $6\sqrt{2} - \sqrt{50} - \sqrt{32}$

⑨  $\sqrt{8} - 3\sqrt{18} + \sqrt{32}$

⑩  $\sqrt{45} + \sqrt{250} - \sqrt{80} + \sqrt{40}$

⑪  $\sqrt{20} - \sqrt{27} + \sqrt{5} - \sqrt{75}$

⑫  $5\sqrt{6} + \sqrt{36} - 2\sqrt{24} + \sqrt{54}$

【2】 次の計算をなさい。

①  $4\sqrt{3} + \frac{6}{\sqrt{3}}$

②  $3\sqrt{7} + \frac{14}{\sqrt{7}}$

③  $\frac{15}{\sqrt{5}} + 2\sqrt{20}$

④  $\frac{1}{\sqrt{3}} + \frac{\sqrt{3}}{2}$

⑤  $\frac{\sqrt{7}}{14} - \frac{4}{\sqrt{7}}$

⑥  $\sqrt{27} - \frac{6}{\sqrt{3}}$

⑦  $\sqrt{\frac{4}{5}} - \sqrt{\frac{5}{4}}$

⑧  $\frac{2}{\sqrt{3}} - \frac{\sqrt{3}}{2} - \frac{1}{\sqrt{12}}$

⑨  $\sqrt{45} - \sqrt{5} - \frac{2}{\sqrt{5}}$

⑩  $\frac{6}{\sqrt{3}} + \frac{2\sqrt{2}}{\sqrt{6}} - \sqrt{48} + \sqrt{\frac{1}{3}}$

得点		<b>演習問題〔解答〕</b>	実施日	月	日	氏名
				平方根の計算(加減) ④		

【1】 次の計算をなさい。

①  $5\sqrt{3} - 3\sqrt{3} + 4\sqrt{3} = \underline{6\sqrt{3}}$

②  $3\sqrt{2} + 2\sqrt{3} - \sqrt{2} - 3\sqrt{3} = \underline{2\sqrt{2} - \sqrt{3}}$

③  $\sqrt{75} + 2\sqrt{3} = 5\sqrt{3} + 2\sqrt{3} = \underline{6\sqrt{3}}$

④  $\sqrt{45} + \sqrt{20} = 3\sqrt{5} + 2\sqrt{5} = \underline{5\sqrt{5}}$

⑤  $\sqrt{80} - \sqrt{20} = 4\sqrt{5} - 2\sqrt{5} = \underline{2\sqrt{5}}$

⑥  $\sqrt{12} + \sqrt{27} = 2\sqrt{3} + 3\sqrt{3} = \underline{5\sqrt{3}}$

⑦  $\sqrt{175} - \sqrt{28} = 5\sqrt{7} - 2\sqrt{7} = \underline{3\sqrt{7}}$

⑧  $6\sqrt{2} - \sqrt{50} - \sqrt{32} = 6\sqrt{2} - 5\sqrt{2} - 4\sqrt{2} = \underline{-3\sqrt{2}}$

⑨  $\sqrt{8} - 3\sqrt{18} + \sqrt{32} = 2\sqrt{2} - 9\sqrt{2} + 4\sqrt{2} = \underline{-3\sqrt{2}}$

⑩  $\sqrt{45} + \sqrt{250} - \sqrt{80} + \sqrt{40} = 3\sqrt{5} + 5\sqrt{10} - 4\sqrt{5} + 2\sqrt{10}$   
 $= \underline{7\sqrt{10} - \sqrt{5}}$

⑪  $\sqrt{20} - \sqrt{27} + \sqrt{5} - \sqrt{75} = 2\sqrt{5} - 3\sqrt{3} + \sqrt{5} - 5\sqrt{5}$   
 $= \underline{3\sqrt{5} - 8\sqrt{3}}$

⑫  $5\sqrt{6} + \sqrt{36} - 2\sqrt{24} + \sqrt{54} = 5\sqrt{6} + 6 - 4\sqrt{6} + 3\sqrt{6}$   
 $= \underline{6 + 4\sqrt{6}}$

【2】 次の計算をなさい。

①  $4\sqrt{3} + \frac{6}{\sqrt{3}} = 4\sqrt{3} + \frac{6\sqrt{3}}{3} = 4\sqrt{3} + 2\sqrt{3} = \underline{6\sqrt{3}}$

②  $3\sqrt{7} + \frac{14}{\sqrt{7}} = 3\sqrt{7} + \frac{14\sqrt{7}}{7} = 3\sqrt{7} + 2\sqrt{7} = \underline{5\sqrt{7}}$

③  $\frac{15}{\sqrt{5}} + 2\sqrt{20} = \frac{15\sqrt{5}}{5} + 4\sqrt{5} = 3\sqrt{5} + 4\sqrt{5} = \underline{7\sqrt{5}}$

④  $\frac{1}{\sqrt{3}} + \frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{3} + \frac{\sqrt{3}}{2} = \frac{2\sqrt{3} + 3\sqrt{3}}{6} = \underline{\frac{5\sqrt{3}}{6}}$

⑤  $\frac{\sqrt{7}}{14} - \frac{4}{\sqrt{7}} = \frac{\sqrt{7}}{14} - \frac{4\sqrt{7}}{7} = \frac{\sqrt{7} - 8\sqrt{7}}{14} = \underline{-\frac{7\sqrt{7}}{14} = -\frac{\sqrt{7}}{2}}$

⑥  $\sqrt{27} - \frac{6}{\sqrt{3}} = 3\sqrt{3} - \frac{6\sqrt{3}}{3} = 3\sqrt{3} - 2\sqrt{3} = \underline{\sqrt{3}}$

⑦  $\sqrt{\frac{4}{5}} - \sqrt{\frac{5}{4}} = \frac{2}{\sqrt{5}} - \frac{\sqrt{5}}{2} = \frac{2\sqrt{5}}{5} - \frac{\sqrt{5}}{2} =$   
 $= \frac{4\sqrt{5} - 5\sqrt{5}}{10} = \underline{-\frac{\sqrt{5}}{10}}$

⑧  $\frac{2}{\sqrt{3}} - \frac{\sqrt{3}}{2} - \frac{1}{\sqrt{12}} = \frac{2\sqrt{3}}{3} - \frac{\sqrt{3}}{2} - \frac{2\sqrt{3}}{12}$   
 $= \frac{2\sqrt{3}}{3} - \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{6} = \frac{4\sqrt{3} - 3\sqrt{3} - \sqrt{3}}{6} = \underline{0}$

⑨  $\sqrt{45} - \sqrt{5} - \frac{2}{\sqrt{5}} = 3\sqrt{5} - \sqrt{5} - \frac{2\sqrt{5}}{5}$   
 $= \frac{15\sqrt{5} - 5\sqrt{5} - 2\sqrt{5}}{5} = \underline{\frac{8\sqrt{5}}{5}}$

⑩  $\frac{6}{\sqrt{3}} + \frac{2\sqrt{2}}{\sqrt{6}} - \sqrt{48} + \sqrt{\frac{1}{3}} = 2\sqrt{3} + \frac{2\sqrt{3}}{3} - 4\sqrt{3} + \frac{\sqrt{3}}{3}$   
 $= \frac{6\sqrt{3} + 2\sqrt{3} - 12\sqrt{3} + \sqrt{3}}{3} = \underline{-\frac{3\sqrt{3}}{3} = -\sqrt{3}}$