

平方根＜分数混在＞ No. 1の解答

1. 次の式を簡単にせよ。

$$(1) \sqrt{12} + \frac{3}{\sqrt{27}}$$

$$= 2\sqrt{3} + \frac{\sqrt{3}}{3}$$

答. $\frac{7\sqrt{3}}{3}$

$$(2) \frac{3}{\sqrt{18}} - \sqrt{2}$$

$$= \frac{\sqrt{2}}{2} - \sqrt{2}$$

答. $-\frac{\sqrt{2}}{2}$

$$(3) \frac{1}{\sqrt{80}} + \sqrt{20}$$

$$= \frac{\sqrt{5}}{20} + 2\sqrt{5}$$

答. $\frac{41\sqrt{5}}{20}$

$$(4) \sqrt{45} - \frac{1}{\sqrt{20}}$$

$$= 3\sqrt{5} - \frac{\sqrt{5}}{10}$$

答. $\frac{29\sqrt{5}}{10}$

$$(5) \sqrt{18} + \frac{2}{\sqrt{8}}$$

$$= 3\sqrt{2} + \frac{\sqrt{2}}{2}$$

答. $\frac{7\sqrt{2}}{2}$

$$(6) \sqrt{32} - \frac{1}{\sqrt{18}} - \sqrt{8}$$

$$= 4\sqrt{2} - \frac{\sqrt{2}}{6} - 2\sqrt{2}$$

答. $\frac{11\sqrt{2}}{6}$

$$(7) \frac{2}{\sqrt{20}} - \sqrt{80} + \sqrt{45}$$

$$= \frac{\sqrt{5}}{5} - 4\sqrt{5} + 3\sqrt{5}$$

答. $-\frac{4\sqrt{5}}{5}$

$$(8) \frac{1}{\sqrt{3}} - \sqrt{48} - \sqrt{12}$$

$$= \frac{\sqrt{3}}{3} - 4\sqrt{3} - 2\sqrt{3}$$

答. $-\frac{17\sqrt{3}}{3}$

$$(9) \sqrt{8} + \frac{1}{\sqrt{2}} - \sqrt{18}$$

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

答. $-\frac{\sqrt{2}}{2}$

$$(10) \frac{3}{\sqrt{18}} - \sqrt{32} + \sqrt{8}$$

$$= \frac{\sqrt{2}}{2} - 4\sqrt{2} + 2\sqrt{2}$$

答. $-\frac{3\sqrt{2}}{2}$

平方根＜分数混在＞ No. 2の解答

1. 次の式を簡単にせよ。

$$(1) \frac{3}{\sqrt{2}} + \sqrt{8}$$

$$= \frac{3\sqrt{2}}{2} + 2\sqrt{2}$$

答. $\frac{7\sqrt{2}}{2}$

$$(2) \sqrt{48} + \frac{3}{\sqrt{27}}$$

$$= 4\sqrt{3} + \frac{\sqrt{3}}{3}$$

答. $\frac{13\sqrt{3}}{3}$

$$(3) \sqrt{27} + \frac{1}{\sqrt{3}}$$

$$= 3\sqrt{3} + \frac{\sqrt{3}}{3}$$

答. $\frac{10\sqrt{3}}{3}$

$$(4) \sqrt{5} + \frac{1}{\sqrt{45}}$$

$$= \sqrt{5} + \frac{\sqrt{5}}{15}$$

答. $\frac{16\sqrt{5}}{15}$

$$(5) \sqrt{32} - \frac{3}{\sqrt{8}}$$

$$= 4\sqrt{2} - \frac{3\sqrt{2}}{4}$$

答. $\frac{13\sqrt{2}}{4}$

$$(6) \sqrt{48} + \frac{1}{\sqrt{12}} + \sqrt{3}$$

$$= 4\sqrt{3} + \frac{\sqrt{3}}{6} + \sqrt{3}$$

答. $\frac{31\sqrt{3}}{6}$

$$(7) \sqrt{27} - \frac{2}{\sqrt{12}} + \sqrt{48}$$

$$= 3\sqrt{3} - \frac{\sqrt{3}}{3} + 4\sqrt{3}$$

答. $\frac{20\sqrt{3}}{3}$

$$(8) \frac{1}{\sqrt{45}} - \sqrt{20} + \sqrt{80}$$

$$= \frac{\sqrt{5}}{15} - 2\sqrt{5} + 4\sqrt{5}$$

答. $\frac{31\sqrt{5}}{15}$

$$(9) \sqrt{8} - \frac{1}{\sqrt{2}} + \sqrt{18}$$

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

答. $\frac{9\sqrt{2}}{2}$

$$(10) \sqrt{18} - \sqrt{2} + \frac{1}{\sqrt{8}}$$

$$= 3\sqrt{2} - \sqrt{2} + \frac{\sqrt{2}}{4}$$

答. $\frac{9\sqrt{2}}{4}$

平方根＜分数混在＞ No. 3の解答

1. 次の式を簡単にせよ。

$$(1) \frac{1}{\sqrt{48}} + \sqrt{12}$$

$$= \frac{\sqrt{3}}{12} + 2\sqrt{3}$$

答. $\frac{25\sqrt{3}}{12}$

$$(2) \frac{3}{\sqrt{12}} + \sqrt{3}$$

$$= \frac{\sqrt{3}}{2} + \sqrt{3}$$

答. $\frac{3\sqrt{3}}{2}$

$$(3) \frac{1}{\sqrt{48}} + \sqrt{27}$$

$$= \frac{\sqrt{3}}{12} + 3\sqrt{3}$$

答. $\frac{37\sqrt{3}}{12}$

$$(4) \frac{1}{\sqrt{27}} + \sqrt{12}$$

$$= \frac{\sqrt{3}}{9} + 2\sqrt{3}$$

答. $\frac{19\sqrt{3}}{9}$

$$(5) \sqrt{20} + \frac{3}{\sqrt{5}}$$

$$= 2\sqrt{5} + \frac{3\sqrt{5}}{5}$$

答. $\frac{13\sqrt{5}}{5}$

$$(6) \sqrt{48} + \sqrt{3} + \frac{2}{\sqrt{27}}$$

$$= 4\sqrt{3} + \sqrt{3} + \frac{2\sqrt{3}}{9}$$

答. $\frac{47\sqrt{3}}{9}$

$$(7) \frac{3}{\sqrt{5}} + \sqrt{20} + \sqrt{80}$$

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

答. $\frac{33\sqrt{5}}{5}$

$$(8) \sqrt{32} + \frac{1}{\sqrt{18}} + \sqrt{2}$$

$$= 4\sqrt{2} + \frac{\sqrt{2}}{6} + \sqrt{2}$$

答. $\frac{31\sqrt{2}}{6}$

$$(9) \frac{1}{\sqrt{48}} - \sqrt{12} - \sqrt{27}$$

$$= \frac{\sqrt{3}}{12} - 2\sqrt{3} - 3\sqrt{3}$$

答. $-\frac{59\sqrt{3}}{12}$

$$(10) \sqrt{48} - \sqrt{3} + \frac{2}{\sqrt{27}}$$

$$= 4\sqrt{3} - \sqrt{3} + \frac{2\sqrt{3}}{9}$$

答. $\frac{29\sqrt{3}}{9}$

平方根＜分数混在＞ No. 4の解答

1. 次の式を簡単にせよ。

$$(1) \frac{1}{\sqrt{18}} - \sqrt{2}$$

$$= \frac{\sqrt{2}}{6} - \sqrt{2}$$

答. $-\frac{5\sqrt{2}}{6}$

$$(2) \frac{2}{\sqrt{12}} - \sqrt{3}$$

$$= \frac{\sqrt{3}}{3} - \sqrt{3}$$

答. $-\frac{2\sqrt{3}}{3}$

$$(3) \sqrt{45} - \frac{3}{\sqrt{20}}$$

$$= 3\sqrt{5} - \frac{3\sqrt{5}}{10}$$

答. $\frac{27\sqrt{5}}{10}$

$$(4) \frac{3}{\sqrt{12}} - \sqrt{27}$$

$$= \frac{\sqrt{3}}{2} - 3\sqrt{3}$$

答. $-\frac{5\sqrt{3}}{2}$

$$(5) \frac{3}{\sqrt{5}} - \sqrt{20}$$

$$= \frac{3\sqrt{5}}{5} - 2\sqrt{5}$$

答. $-\frac{7\sqrt{5}}{5}$

$$(6) \frac{2}{\sqrt{8}} - \sqrt{18} + \sqrt{2}$$

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

答. $-\frac{3\sqrt{2}}{2}$

$$(7) \sqrt{18} + \sqrt{32} - \frac{1}{\sqrt{2}}$$

$$= 3\sqrt{2} + 4\sqrt{2} - \frac{\sqrt{2}}{2}$$

答. $\frac{13\sqrt{2}}{2}$

$$(8) \sqrt{80} - \sqrt{20} + \frac{3}{\sqrt{45}}$$

$$= 4\sqrt{5} - 2\sqrt{5} + \frac{\sqrt{5}}{5}$$

答. $\frac{11\sqrt{5}}{5}$

$$(9) \frac{1}{\sqrt{27}} - \sqrt{48} - \sqrt{3}$$

$$= \frac{\sqrt{3}}{9} - 4\sqrt{3} - \sqrt{3}$$

答. $-\frac{44\sqrt{3}}{9}$

$$(10) \sqrt{3} + \sqrt{27} - \frac{1}{\sqrt{12}}$$

$$= \sqrt{3} + 3\sqrt{3} - \frac{\sqrt{3}}{6}$$

答. $\frac{23\sqrt{3}}{6}$

平方根＜分数混在＞ No. 5の解答

1. 次の式を簡単にせよ。

$$(1) \frac{3}{\sqrt{3}} - \sqrt{12}$$

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

答. $-\sqrt{3}$

$$(2) \sqrt{18} - \frac{3}{\sqrt{2}}$$

$$= 3\sqrt{2} - \frac{3\sqrt{2}}{2}$$

答. $\frac{3\sqrt{2}}{2}$

$$(3) \sqrt{12} + \frac{1}{\sqrt{27}}$$

$$= 2\sqrt{3} + \frac{\sqrt{3}}{9}$$

答. $\frac{19\sqrt{3}}{9}$

$$(4) \frac{1}{\sqrt{48}} + \sqrt{27}$$

$$= \frac{\sqrt{3}}{12} + 3\sqrt{3}$$

答. $\frac{37\sqrt{3}}{12}$

$$(5) \sqrt{27} - \frac{1}{\sqrt{12}}$$

$$= 3\sqrt{3} - \frac{\sqrt{3}}{6}$$

答. $\frac{17\sqrt{3}}{6}$

$$(6) \sqrt{18} - \sqrt{2} + \frac{1}{\sqrt{8}}$$

$$= 3\sqrt{2} - \sqrt{2} + \frac{\sqrt{2}}{4}$$

答. $\frac{9\sqrt{2}}{4}$

$$(7) \frac{3}{\sqrt{5}} + \sqrt{20} - \sqrt{45}$$

$$= \frac{3\sqrt{5}}{5} + 2\sqrt{5} - 3\sqrt{5}$$

答. $-\frac{2\sqrt{5}}{5}$

$$(8) \sqrt{48} + \sqrt{12} + \frac{3}{\sqrt{27}}$$

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

答. $\frac{19\sqrt{3}}{3}$

$$(9) \frac{1}{\sqrt{27}} + \sqrt{3} - \sqrt{48}$$

$$= \frac{\sqrt{3}}{9} + \sqrt{3} - 4\sqrt{3}$$

答. $-\frac{26\sqrt{3}}{9}$

$$(10) \sqrt{8} + \sqrt{32} - \frac{2}{\sqrt{18}}$$

$$= 2\sqrt{2} + 4\sqrt{2} - \frac{\sqrt{2}}{3}$$

答. $\frac{17\sqrt{2}}{3}$