

2章(平方根) 2節(平方根をふくむ式の計算)

年 組 番

4 . 平方根の加法, 減法

名前

1. 次の計算をなさい。

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

$$= (2 + 3)\sqrt{5} = 5\sqrt{5}$$

$$5\sqrt{5}$$

$$7\sqrt{7} - 8\sqrt{7}$$

$$= (7 - 8)\sqrt{7} = -\sqrt{7}$$

$$-\sqrt{7}$$

$$3\sqrt{2} + \sqrt{72}$$

$$= 3\sqrt{2} + 6\sqrt{2} = (3 + 6)\sqrt{2} = 9\sqrt{2}$$

$$9\sqrt{2}$$

$$\sqrt{125} - \sqrt{80}$$

$$= 5\sqrt{5} - 4\sqrt{5} = (5 - 4)\sqrt{5} = \sqrt{5}$$

$$\sqrt{5}$$

$$4\sqrt{2} + 3\sqrt{3} - \sqrt{3} + \sqrt{18}$$

$$= 4\sqrt{2} + 3\sqrt{3} - \sqrt{3} + 3\sqrt{2} = (4\sqrt{2} + 3\sqrt{2}) + (3\sqrt{3} - \sqrt{3})$$

$$= 7\sqrt{2} + 2\sqrt{3}$$

$$7\sqrt{2} + 2\sqrt{3}$$

$$\sqrt{32} - \sqrt{54} + \sqrt{150} - \sqrt{128}$$

$$= 4\sqrt{2} - 3\sqrt{6} + 5\sqrt{6} - 8\sqrt{2} = (4\sqrt{2} - 8\sqrt{2}) + (-3\sqrt{6} + 5\sqrt{6})$$

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

$$-4\sqrt{2} + 2\sqrt{6}$$

$$\frac{\sqrt{3}}{2} + \frac{\sqrt{2}}{3} - \frac{\sqrt{3}}{4} + \frac{\sqrt{2}}{6}$$

$$= \left(\frac{\sqrt{2}}{3} + \frac{\sqrt{2}}{6}\right) + \left(\frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{4}\right) = \left(\frac{2\sqrt{2}}{6} + \frac{\sqrt{2}}{6}\right) + \left(\frac{2\sqrt{3}}{4} - \frac{\sqrt{3}}{4}\right)$$

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

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

$$\sqrt{48} - \frac{\sqrt{5}}{\sqrt{15}}$$

$$= 4\sqrt{3} - \frac{1}{\sqrt{3}} = 4\sqrt{3} - \frac{\sqrt{3}}{3} = \frac{12\sqrt{3}}{3} - \frac{\sqrt{3}}{3} = \frac{11\sqrt{3}}{3}$$

$$\frac{11\sqrt{3}}{3}$$