

## 平方根 いろいろな計算2

名前

/10 点

■ 次の計算をなさい。

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

(2)  $\sqrt{2} (3\sqrt{6} - \sqrt{2})$

(3)  $\sqrt{5} (\sqrt{20} - 2)$

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

(5)  $(\sqrt{3} + 1)(\sqrt{3} - 2)$

(6)  $(\sqrt{2} + 3)(\sqrt{2} + 4)$

(7)  $(2\sqrt{5} + \sqrt{2})(2\sqrt{5} - \sqrt{2})$

(8)  $(\sqrt{5} + 2)^2$

(9)  $(\sqrt{2} - \sqrt{7})^2$

(10)  $(\sqrt{3} - 2)^2 + \sqrt{12}$

## 解答

$$(1) \sqrt{12} + 3\sqrt{2} = 2\sqrt{3} + 3\sqrt{2}$$

$$(2) 3\sqrt{12} - 2 = 6\sqrt{3} - 2$$

$$(3) \sqrt{100} - 2\sqrt{5} = 10 - 2\sqrt{5}$$

$$(4) -\sqrt{36} + 2\sqrt{3} = -6 + 2\sqrt{3}$$

$$\begin{aligned} (5) & (\sqrt{3})^2 + (1 - 2)\sqrt{3} + 1 \times (-2) \\ &= 3 - \sqrt{3} - 2 \\ &= 1 - \sqrt{3} \end{aligned}$$

$$\begin{aligned} (6) & (\sqrt{2})^2 + (3 + 4)\sqrt{2} + 3 \times 4 \\ &= 2 + 7\sqrt{2} + 12 \\ &= 14 + 7\sqrt{2} \end{aligned}$$

$$\begin{aligned} (7) & (2\sqrt{5})^2 - (\sqrt{2})^2 = 20 - 2 \\ &= 18 \end{aligned}$$

$$\begin{aligned} (8) & (\sqrt{5})^2 + 2 \times 2\sqrt{5} + 2^2 \\ &= 5 + 4\sqrt{5} + 4 \\ &= 9 + 4\sqrt{5} \end{aligned}$$

$$\begin{aligned} (9) & (\sqrt{2})^2 - 2 \times \sqrt{2} \times \sqrt{7} + (\sqrt{7})^2 \\ &= 2 - 2\sqrt{14} + 7 \\ &= 9 - 2\sqrt{14} \end{aligned}$$

$$\begin{aligned} (10) & (\sqrt{3})^2 - 2 \times 2\sqrt{3} + 2^2 + 2\sqrt{3} \\ &= 3 - 4\sqrt{3} + 4 + 2\sqrt{3} \\ &= 7 - 2\sqrt{3} \end{aligned}$$