

9. 平方根

$$(1) 5\sqrt{2} \quad (2) -6\sqrt{2} \quad (3) 30-12\sqrt{6} \quad (4) 1-5\sqrt{15} \quad (5) 6+2\sqrt{2}-2\sqrt{6}-2\sqrt{3} \quad (6) -6\sqrt{2}$$

次の式を計算せよ。

$$(1) \sqrt{50} = \sqrt{5^2 \cdot 2} \\ = 5\sqrt{2}$$

$$(2) -\sqrt{72} = -\sqrt{6^2 \cdot 2} \\ = -6\sqrt{2}$$

$$(3) (2\sqrt{3} - 3\sqrt{2})^2 = 12 - 12\sqrt{6} + 18 \\ = 30 - 12\sqrt{6}$$

$$(4) (\sqrt{20} + \sqrt{3})(\sqrt{5} - \sqrt{27}) = (2\sqrt{5} + \sqrt{3})(\sqrt{5} - 3\sqrt{3}) \\ = 10 - 6\sqrt{15} + \sqrt{15} - 9 \\ = 1 - 5\sqrt{15}$$

$$(5) (1 + \sqrt{2} - \sqrt{3})^2 = 1 + 2 + 3 + 2\sqrt{2} - 2\sqrt{6} - 2\sqrt{3} \\ = 6 + 2\sqrt{2} - 2\sqrt{6} - 2\sqrt{3}$$

$$(6) (3 - \sqrt{2} - \sqrt{11})(3 - \sqrt{2} + \sqrt{11}) = (3 - \sqrt{2})^2 - \sqrt{11}^2 \\ = 9 - 6\sqrt{2} + 2 - 11 \\ = -6\sqrt{2}$$