

$$\boxed{1} \text{ 解答 (1) (ア) } \frac{3}{5} \quad (\text{イ}) \frac{7}{4} \quad (2) \frac{5}{8}, -\sqrt{4}, \sqrt{0.16}$$

$$(1) \text{ (ア) } 0.6 = \frac{6}{10} = \frac{3}{5}$$

$$\text{(イ)} \quad 1.75 = \frac{175}{100} = \frac{7}{4}$$

$$(2) \quad -\sqrt{4} = -2, \sqrt{0.16} = 0.4 \text{ であるから, 有理数は } \frac{5}{8}, -\sqrt{4}, \sqrt{0.16}$$

$$\boxed{2} \text{ 解答 (1) } 9 \quad (2) 4 \quad (3) 7\sqrt{3} \quad (4) 3\sqrt{6} \quad (5) 5\sqrt{5} \quad (6) 0$$

$$(1) \quad \sqrt{3} \times \sqrt{27} = \sqrt{3 \times 27} \\ = \sqrt{81} \\ = 9$$

$$(2) \quad \sqrt{80} \div \sqrt{5} = \frac{\sqrt{80}}{\sqrt{5}} \\ = \sqrt{\frac{80}{5}} \\ = \sqrt{16} \\ = 4$$

$$(3) \quad \sqrt{7} \times \sqrt{21} = \sqrt{7 \times 21} \\ = \sqrt{7 \times 3 \times 7} \\ = \sqrt{7^2 \times 3} \\ = 7\sqrt{3}$$

$$(4) \quad 7\sqrt{6} - 4\sqrt{6} = (7-4)\sqrt{6} \\ = 3\sqrt{6}$$

$$(5) \quad \sqrt{20} + \sqrt{45} = 2\sqrt{5} + 3\sqrt{5} \\ = 5\sqrt{5}$$

$$(6) \quad \frac{12}{\sqrt{3}} - \sqrt{48} = \frac{12 \times \sqrt{3}}{\sqrt{3} \times \sqrt{3}} - 4\sqrt{3} \\ = \frac{12\sqrt{3}}{3} - 4\sqrt{3} \\ = 4\sqrt{3} - 4\sqrt{3}$$

$$= 0$$

$$\boxed{3} \text{ 解答 (1) } 2\sqrt{2} \quad (2) -7 \quad (3) -14\sqrt{2}$$

$$(1) \quad x+y = (\sqrt{2}+3) + (\sqrt{2}-3) \\ = 2\sqrt{2}$$

$$(2) \quad xy = (\sqrt{2}+3)(\sqrt{2}-3) \\ = (\sqrt{2})^2 - 3^2 \\ = 2 - 9 \\ = -7$$

$$(3) \quad x^2y + xy^2 = xy(x+y) \\ = -7 \times 2\sqrt{2} \\ = -14\sqrt{2}$$