

平方根の変形 解答と解説

1 解答 (1) (ア) $\sqrt{12}$ (イ) $\sqrt{7}$ (2) (ア) $3\sqrt{5}$ (イ) $2\sqrt{13}$

$$(1) \text{ (ア)} \quad 2\sqrt{3} = \sqrt{2^2} \times \sqrt{3} \\ = \sqrt{2^2 \times 3} \\ = \sqrt{12}$$

$$(イ) \quad \frac{\sqrt{28}}{2} = \frac{\sqrt{28}}{\sqrt{2^2}} \\ = \sqrt{\frac{28}{2^2}} \\ = \sqrt{7}$$

$$(2) \text{ (ア)} \quad \sqrt{45} = \sqrt{9 \times 5} \\ = \sqrt{9} \times \sqrt{5} \\ = 3\sqrt{5}$$

$$(イ) \quad \sqrt{52} = \sqrt{4 \times 13} \\ = \sqrt{4} \times \sqrt{13} \\ = 2\sqrt{13}$$

2 解答 (1) $4\sqrt{6}$ (2) $3\sqrt{14}$ (3) $\frac{\sqrt{3}}{7}$ (4) $\frac{\sqrt{5}}{10}$

$$(1) \quad \sqrt{96} = \sqrt{2^5 \times 3} \\ = \sqrt{4^2 \times 6} \\ = \sqrt{4^2} \times \sqrt{6} \\ = 4\sqrt{6}$$

$$(2) \quad \sqrt{126} = \sqrt{2 \times 3^2 \times 7} \\ = \sqrt{3^2 \times 14} \\ = \sqrt{3^2} \times \sqrt{14} \\ = 3\sqrt{14}$$

$$(3) \quad \sqrt{\frac{3}{49}} = \frac{\sqrt{3}}{\sqrt{49}} \\ = \frac{\sqrt{3}}{7}$$

$$(4) \quad \sqrt{0.05} = \sqrt{\frac{5}{100}} \\ = \frac{\sqrt{5}}{\sqrt{100}} \\ = \frac{\sqrt{5}}{10}$$

$2 \overline{) 96}$	$2 \overline{) 126}$
$2 \overline{) 48}$	$3 \overline{) 63}$
$2 \overline{) 24}$	$3 \overline{) 21}$
$2 \overline{) 12}$	7
$2 \overline{) 6}$	
3	