

問題番号 09M0206_01 レベル ☆☆☆	うんな進学塾 中3 第2章 平方根 ⑥平方根の計算（有理化） No.1 解答	授業動画QR 
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1. 次の数の分母を有理化しなさい。

$$\begin{array}{lll}
 (1) \frac{3}{\sqrt{2}} = \frac{3 \times \sqrt{2}}{\sqrt{2} \times \sqrt{2}} = \frac{3\sqrt{2}}{2} & (2) \frac{\sqrt{2}}{\sqrt{5}} = \frac{\sqrt{2} \times \sqrt{5}}{\sqrt{5} \times \sqrt{5}} = \frac{\sqrt{10}}{5} & (3) \frac{3}{2\sqrt{3}} = \frac{3 \times \sqrt{3}}{2\sqrt{3} \times \sqrt{3}} = \frac{3\sqrt{3}}{6} \\
 (4) \frac{\sqrt{6}}{3\sqrt{5}} = \frac{\sqrt{6} \times \sqrt{5}}{3\sqrt{5} \times \sqrt{5}} = \frac{\sqrt{30}}{15} & (5) \frac{4}{\sqrt{12}} = \frac{4 \times \sqrt{3}}{2\sqrt{3} \times \sqrt{3}} = \frac{4\sqrt{3}}{6} & (6) \frac{\sqrt{8}}{\sqrt{6}} = \frac{2\sqrt{2} \times \sqrt{6}}{\sqrt{6} \times \sqrt{6}} = \frac{2\sqrt{12}}{6}
 \end{array}$$

(1) $\frac{3\sqrt{2}}{2}$	(2) $\frac{\sqrt{10}}{5}$	(3) $\frac{\sqrt{3}}{2}$
(4) $\frac{\sqrt{30}}{15}$	(5) $\frac{2\sqrt{3}}{3}$	(6) $\frac{2\sqrt{3}}{3}$

2. 次の計算をしなさい。

$$\begin{array}{lll}
 (1) \sqrt{12} \times \sqrt{18} & (2) \sqrt{27} \times \sqrt{15} & (3) \sqrt{6} \times \sqrt{12} \\
 = 2\sqrt{3} \times 3\sqrt{2} & = 3\sqrt{3} \times \sqrt{3} \times \sqrt{5} & = \sqrt{6} \times \sqrt{6} \times \sqrt{2} = 6\sqrt{2} \\
 = 6\sqrt{6} & = 9\sqrt{5} & \\
 \\
 (4) 2\sqrt{3} \times 3\sqrt{6} & (5) \sqrt{98} \times (-2\sqrt{2}) & (6) (-\sqrt{54}) \times 3\sqrt{3} \\
 = 2\sqrt{3} \times 3\sqrt{2} \times \sqrt{3} & = 7\sqrt{2} \times (-2\sqrt{2}) & = (-3\sqrt{2 \times 3}) \times 3\sqrt{3} \\
 = 18\sqrt{2} & = -14 \times 2 = -28 & = -9 \times \sqrt{2 \times 3 \times 3} = -27\sqrt{2} \\
 \\
 (7) \sqrt{3} \div \sqrt{5} & (8) 4\sqrt{6} \div 2\sqrt{2} & (9) \sqrt{63} \div (-\sqrt{7}) \\
 = \frac{\sqrt{3}}{\sqrt{5}} = \frac{\sqrt{3} \times \sqrt{5}}{\sqrt{5} \times \sqrt{5}} = \frac{\sqrt{15}}{5} & = \frac{4\sqrt{6}}{2\sqrt{2}} = \frac{4\sqrt{6} \times \sqrt{2}}{2\sqrt{2} \times \sqrt{2}} = \frac{4\sqrt{12}}{4} & = -\frac{\sqrt{63}}{\sqrt{7}} = -\frac{\sqrt{7} \times \sqrt{9}}{\sqrt{7}} = -3
 \end{array}$$

(1) $6\sqrt{6}$	(2) $9\sqrt{5}$	(3) $6\sqrt{2}$
(4) $18\sqrt{2}$	(5) -28	(6) $-27\sqrt{2}$
(7) $\frac{\sqrt{15}}{5}$	(8) $2\sqrt{3}$	(9) -3