1. 식 $2(\sqrt{12}\times\sqrt{7})\div(\sqrt{28}\times\sqrt{3})$ 을 간단히 하면?

① 1 [✓ ② 2] ③ 3 ④ 4 ⑤ 5

해설

$$(\text{준식})=\sqrt{\frac{4\times 12\times 7}{28\times 3}}=2$$

2. $6\sqrt{6} \div 3\sqrt{2} \times 5\sqrt{6} = a\sqrt{2}$ 을 만족하는 유리수 a 의 값은?

① 10　② 15　③ 20　④ 25　[✓ ⑤ 30]

해설

$$
\begin{aligned}
6\sqrt{6} \div 3\sqrt{2} \times 5\sqrt{6} &= \frac{6\sqrt{6}}{3\sqrt{2}} \times 5\sqrt{6} \\
&= 2\sqrt{3} \times 5\sqrt{6} = 10\sqrt{3^2 \times 2} \\
&= 30\sqrt{2}
\end{aligned}
$$

$30\sqrt{2} = a\sqrt{2}$

$\therefore a = 30$

3. $\frac{4}{\sqrt{10}} \times \sqrt{30} \div \frac{\sqrt{12}}{\sqrt{5}}$ 를 간단히 한 것은?

① 2 [✓ ② $2\sqrt{5}$] ③ $3\sqrt{2}$ ④ $3\sqrt{5}$ ⑤ $4\sqrt{2}$

해설

$$\begin{aligned}\frac{4}{\sqrt{10}} \times \sqrt{30} \div \frac{\sqrt{12}}{\sqrt{5}} &= \frac{4}{\sqrt{10}} \times \sqrt{30} \times \frac{\sqrt{5}}{2\sqrt{3}} \\ &= 2\sqrt{\frac{30 \times 5}{10 \times 3}} = 2\sqrt{5}\end{aligned}$$

4. $\frac{\sqrt{24}}{3\sqrt{3}} \times \frac{\sqrt{30}}{\sqrt{12}} \div \frac{\sqrt{15}}{3\sqrt{6}} = a\sqrt{2}$ 을 만족하는 유리수 a 의 값은?

① 1　[✓ ② 2]　③ 3　④ 4　⑤ 5

해설

$$\begin{aligned}\frac{\sqrt{24}}{3\sqrt{3}} \times \frac{\sqrt{30}}{\sqrt{12}} \div \frac{\sqrt{15}}{3\sqrt{6}} &= \frac{2\sqrt{6}}{3\sqrt{3}} \times \frac{\sqrt{30}}{2\sqrt{3}} \times \frac{3\sqrt{6}}{\sqrt{15}} \\ &= \frac{\sqrt{6^2 \times 30}}{\sqrt{3^2 \times 15}} \\ &= 2\sqrt{2}\end{aligned}$$