

A.N.3: Operations with Radicals 3: Perform addition, subtraction, multiplication, and division

- 1 Expressed in simplest radical form, the product of

$\sqrt{6} \cdot \sqrt{15}$ is

- 1) $\sqrt{90}$
- 2) $3\sqrt{10}$
- 3) $9\sqrt{10}$
- 4) $3\sqrt{15}$

- 2 Which value is equivalent to the product of $4\sqrt{2}$ and $2\sqrt{6}$?

- 1) $16\sqrt{3}$
- 2) $6\sqrt{12}$
- 3) $6\sqrt{8}$
- 4) $24\sqrt{2}$

- 3 The expression $\frac{6\sqrt{20}}{3\sqrt{5}}$ is equivalent to

- 1) $3\sqrt{15}$
- 2) $2\sqrt{15}$
- 3) 8
- 4) 4

- 4 Simplify: $\sqrt{8} \times \sqrt{12}$

- 5 Simplify: $\sqrt{30} \times \sqrt{40}$

- 6 Simplify: $8\sqrt{12} \times 3\sqrt{24}$

- 7 Simplify: $\sqrt{24} \div \sqrt{32}$

- 8 Simplify: $\frac{\sqrt{45}}{\sqrt{80}}$

- 9 Express $\frac{\sqrt{84}}{2\sqrt{3}}$ in simplest radical form.

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Answer Section

1 ANS: 2

$$\sqrt{6} \cdot \sqrt{15} = \sqrt{90} = \sqrt{9} \sqrt{10} = 3\sqrt{10}$$

REF: 060627a

2 ANS: 1

$$4\sqrt{2} \cdot 2\sqrt{6} = 8\sqrt{12} = 8\sqrt{4} \cdot \sqrt{3} = 16\sqrt{3}$$

REF: 061528ia

3 ANS: 4

$$\frac{6\sqrt{20}}{3\sqrt{5}} = \frac{6}{3} \frac{\sqrt{20}}{\sqrt{5}} = 2\sqrt{\frac{20}{5}} = 2\sqrt{4} = 4$$

REF: 010622a

4 ANS:

$$4\sqrt{6}$$

REF: 119313al

5 ANS:

$$20\sqrt{3}$$

REF: 039505al

6 ANS:

$$288\sqrt{2}$$

REF: 039114al

7 ANS:

$$\frac{\sqrt{3}}{2}$$

REF: 119313al

8 ANS:

$$\frac{3}{4}$$

REF: 099414al

9 ANS:

$$\frac{\sqrt{84}}{2\sqrt{3}} = \frac{\sqrt{4} \sqrt{21}}{2\sqrt{3}} = \sqrt{\frac{21}{3}} = \sqrt{7}$$

REF: 011431ia