

Review: Operations with Radical Expressions

Simplify each expression

1) $2\sqrt{3} \cdot 4\sqrt{6}$

2) $\sqrt{5} \cdot 2\sqrt{10}$

3) $3\sqrt{6} \cdot 9\sqrt{2}$

4) $-3\sqrt{2} \cdot -5\sqrt{8}$

5) $\frac{\sqrt{10}}{\sqrt{2}}$

6) $\frac{\sqrt{10}}{\sqrt{12}}$

7) $\frac{1}{\sqrt{6}}$

8) $\frac{\sqrt{2}}{\sqrt{5}}$

9) $\frac{6}{\sqrt{3}}$

10) $\frac{\sqrt{20}}{\sqrt{25}}$

11) $\sqrt{\frac{3}{25}}$

12) $\frac{\sqrt{100}}{\sqrt{25}}$

13) $\frac{4\sqrt{5}}{\sqrt{2}}$

14) $3\sqrt{6} - 2\sqrt{5} + \sqrt{6} - \sqrt{5}$

15) $2\sqrt{8} - \sqrt{18} + \sqrt{5}$

16) $\sqrt{150} + 2\sqrt{54}$

17) $3\sqrt{98} + \sqrt{27} - \sqrt{8} + 6\sqrt{12}$

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Answers:

1) $24\sqrt{2}$

2) $10\sqrt{2}$

3) $54\sqrt{3}$

4) 60

5) $\sqrt{5}$

6) $\frac{\sqrt{30}}{6}$

7) $\frac{\sqrt{6}}{6}$

8) $\frac{\sqrt{10}}{5}$

9) $2\sqrt{3}$

10) $\frac{2\sqrt{5}}{5}$

11) $\frac{\sqrt{3}}{5}$

12) 2

13) $2\sqrt{10}$

14) $4\sqrt{6} - 3\sqrt{5}$

15) $\sqrt{2} + \sqrt{5}$

16) $11\sqrt{6}$

17) $19\sqrt{2} + 15\sqrt{3}$