

Radical Practice

Simplify.

1) $8\sqrt{27x^4y}$

2) $2\sqrt{45x^4y^3z^2}$

3) $4\sqrt{6v^2} \cdot -5\sqrt{8v^2}$

4) $\sqrt{20p^3} \cdot 3\sqrt{3p}$

5) $\sqrt{6}(2-4\sqrt{3})$

6) $4\sqrt{3}(-\sqrt{6}+3\sqrt{2})$

7) $\frac{2\sqrt{16}}{\sqrt{12}}$

8) $\frac{\sqrt{12}}{\sqrt{20}}$

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

10) $\frac{\sqrt{4}}{2\sqrt{3}}$

11) $3\sqrt{2} - 3\sqrt{5} + 2\sqrt{5}$

12) $3\sqrt{6} - \sqrt{6} + 3\sqrt{5}$

13) $3\sqrt{2} - \sqrt{8}$

14) $-3\sqrt{54} + 3\sqrt{6}$

More Practice Simplifying Radicals

Simplify.

1) $\sqrt{256p^3}$

2) $\sqrt{18x}$

3) $\sqrt{180n^3}$

4) $\sqrt{256x^4}$

5) $\sqrt{32x^3}$

6) $\sqrt{72n^2}$

7) $\sqrt{45n^4}$

8) $\sqrt{175x^4}$

9) $\sqrt{75m^2}$

10) $\sqrt{80n}$

11) $\sqrt{54p^2}$

12) $\sqrt{64m^3}$

Radical Practice

Key

Simplify.

1) $\frac{8\sqrt{27x^4y}}{24x^2\sqrt{3y}}$

$\frac{8\sqrt{9 \cdot 3x^4y}}{24\sqrt{3x^4y}}$
 $\frac{24\sqrt{3x^4y}}{24x^2\sqrt{3y}}$

2) $\frac{2\sqrt{45x^4y^3z^2}}{6x^2yz\sqrt{5y}}$

$\frac{2\sqrt{9 \cdot 5x^4y^3z^2}}{6x^2yz\sqrt{5y}}$
 $\frac{6x^2yz\sqrt{5y}}{6x^2yz\sqrt{5y}}$

3) $\frac{4\sqrt{6v^2} \cdot -5\sqrt{8v^2}}{-80v^2\sqrt{3}}$

$\frac{-20\sqrt{48v^4}}{-80v^2\sqrt{3}}$
 $\frac{-20\sqrt{16 \cdot 3v^4}}{-80v^2\sqrt{3}}$
 $\frac{-80v^2\sqrt{3}}{-80v^2\sqrt{3}}$

4) $\frac{\sqrt{20p^3} \cdot 3\sqrt{3p}}{6p^2\sqrt{15}}$

$\frac{3\sqrt{60p^4}}{6p^2\sqrt{15}}$
 $\frac{3\sqrt{15 \cdot 4p^4}}{6p^2\sqrt{15}} = \frac{6p^2\sqrt{15}}{6p^2\sqrt{15}}$

5) $\frac{\sqrt{6}(2 - 4\sqrt{3})}{2\sqrt{6} - 12\sqrt{2}}$

6) $\frac{4\sqrt{3}(-\sqrt{6} + 3\sqrt{2})}{-12\sqrt{2} + 12\sqrt{6}}$

7) $\frac{2\sqrt{16}}{\sqrt{12}} \cdot \frac{4\sqrt{3}}{3}$

8) $\frac{\sqrt{12}}{\sqrt{20}} \cdot \frac{\sqrt{15}}{5}$

9) $\frac{3\sqrt{3}}{5\sqrt{5}} \cdot \frac{3\sqrt{15}}{25}$

10) $\frac{\sqrt{4}}{2\sqrt{3}} \cdot \frac{\sqrt{3}}{3}$

11) $\frac{3\sqrt{2} - 3\sqrt{5} + 2\sqrt{5}}{3\sqrt{2} - \sqrt{5}}$

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

13) $\frac{3\sqrt{2} - \sqrt{8}}{\sqrt{2}}$

14) $\frac{-3\sqrt{54} + 3\sqrt{6}}{-6\sqrt{6}}$

More Practice Simplifying Radicals

Simplify.

$$1) \frac{\sqrt{256p^3}}{16p\sqrt{p}}$$

$$2) \frac{\sqrt{18x}}{3\sqrt{2x}}$$

$$3) \frac{\sqrt{180n^3}}{6n\sqrt{5n}}$$

$$4) \frac{\sqrt{256x^4}}{16x^2}$$

$$5) \frac{\sqrt{32x^3}}{4x\sqrt{2x}}$$

$$6) \frac{\sqrt{72n^2}}{6n\sqrt{2}}$$

$$7) \frac{\sqrt{45n^4}}{3n^2\sqrt{5}}$$

$$8) \frac{\sqrt{175x^4}}{5x^2\sqrt{7}}$$

$$9) \frac{\sqrt{75m^2}}{5m\sqrt{3}}$$

$$10) \frac{\sqrt{80n}}{4\sqrt{5n}} \quad \sqrt{16.5n}$$

$$11) \frac{\sqrt{54p^2}}{3p\sqrt{6}}$$

$$12) \frac{\sqrt{64m^3}}{8m\sqrt{m}} \quad \sqrt{64m^3}$$