

Key

Express each answer in simplest radical form.

1. $8xy^3 \sqrt[3]{24x^{10}y^7}$

$$8xy^3 \sqrt[3]{(8 \cdot 3x^9 \cdot xy^6) \cdot y}$$

$$8xy^3 \cdot 2x^3y^2 \sqrt[3]{3xy}$$

$$\boxed{16x^4y^5 \sqrt[3]{3xy}}$$

2. $y^3 \sqrt[3]{189x^6y^9}$

$$y^3 \sqrt[3]{(27 \cdot 3x^6) \cdot y^9}$$

$$y^3 \cdot 3x^2y^3 \sqrt[3]{3}$$

$$\boxed{3x^2y^6 \sqrt[3]{3}}$$

3. $4xy^2 \sqrt[3]{189x^{11}y^{10}}$

$$4xy^2 \sqrt[3]{(27 \cdot 3x^9 \cdot x^2) \cdot (y^9 \cdot y)}$$

$$4xy^2 \cdot 3x^3y^3 \sqrt[3]{3x^2y}$$

$$\boxed{12x^4y^5 \sqrt[3]{3x^2y}}$$

4. $7x^3y \sqrt[3]{8x^5y^{10}}$

$$7x^3y \sqrt[3]{(8x^3x^2y^9) \cdot y}$$

$$7x^3y \cdot 2xy^3 \sqrt[3]{x^2y}$$

$$\boxed{14x^4y^4 \sqrt[3]{x^2y}}$$

5. $y \sqrt[3]{750x^{10}y^7}$

$$y \sqrt[3]{(125 \cdot 6x^9) \cdot (xy^6) \cdot y}$$

$$y \cdot 5x^3y^2 \sqrt[3]{6xy}$$

$$\boxed{5x^3y^3 \sqrt[3]{6xy}}$$

6. $2x^3 \sqrt[3]{8x^5y^9}$

$$2x^3 \sqrt[3]{(8x^3x^2) \cdot y^9}$$

$$2x^3 \cdot 2xy^3 \sqrt[3]{x^2}$$

$$\boxed{4x^4y^3 \sqrt[3]{x^2}}$$

7. $x^3 \sqrt[3]{40x^{11}y^7}$

$$x^3 \sqrt[3]{8 \cdot 5 \cdot x^9 \cdot x^2 \cdot y^6 \cdot y}$$

$$x^3 \cdot 2x^3 y^2 \sqrt[3]{5x^2 y}$$

$$2x^6 y^2 \sqrt[3]{5x^2 y}$$

8. $y^2 \sqrt[3]{48x^4 y^7}$

$$y^2 \sqrt[3]{8 \cdot 6 \cdot x^3 \cdot x \cdot y^6 \cdot y}$$

$$y^2 \cdot 2xy^2 \sqrt[3]{6xy}$$

$$2xy^4 \sqrt[3]{6xy}$$

9. $5 \sqrt[3]{162x^9 y^5}$

$$5 \sqrt[3]{27 \cdot 6 \cdot x^9 \cdot y^3 \cdot y^2}$$

$$5 \cdot 3x^3 y \sqrt[3]{6y^2}$$

$$15x^3 y \sqrt[3]{6y^2}$$

10. $5x^3 y^3 \sqrt[3]{8x^9 y^6}$

$$5x^3 y^3 \sqrt[3]{8x^9 y^6}$$

$$5x^3 y^3 \cdot 2x^3 y^2$$

$$10x^6 y^5$$

11. $xy \sqrt[3]{54x^7 y^{10}}$

$$xy \sqrt[3]{27 \cdot 2 \cdot x^6 \cdot x \cdot y^9 \cdot y}$$

$$xy \cdot 3x^2 y^3 \sqrt[3]{2xy}$$

$$3x^3 y^4 \sqrt[3]{2xy}$$

If you've finished all the problems on this page,
 move on to tonight's HW: p. 93-94 #1, 10-45
 multiples of 5 & remember to study for
 Wednesday's Quiz!

Homework 1.2

Key

1. $\sqrt{36x^2y^6}$

$$\boxed{6xy^3}$$

2. $\sqrt{32a^7b^4}$

$$\boxed{4a^3b^2\sqrt{2a}}$$

3. $\sqrt{6x^3}$

$$\sqrt{6x^2 \cdot x}$$

$$\boxed{x\sqrt{6x}}$$

4. $\sqrt{75x^7y^5}$

$$\boxed{5x^3y^2\sqrt{3xy}}$$

5. $\sqrt{80x^{100}y^{49}}$

$$\boxed{4x^{50}y^{24}\sqrt{5y}}$$

6. $\sqrt[3]{125x^3y^4}$

$$\boxed{5xy\sqrt[3]{y}}$$

7. $4(\sqrt[3]{54a^2b^7})$

$$4\sqrt[3]{27 \cdot 2a^2b^6 \cdot b}$$

$$4 \cdot 3b^2\sqrt[3]{2a^2b}$$

$$\boxed{12b^2\sqrt[3]{2a^2b}}$$

8. $-8(\sqrt[3]{16x^4y^5z^6})$

$$-8\sqrt[3]{8 \cdot 2x^3y^3y^2z^6}$$

$$-8 \cdot 2xyz^2\sqrt[3]{2xy^2}$$

$$\boxed{-16xyz^2\sqrt[3]{2xy^2}}$$