

4th. PR27

$$(y+2)^{-2} (y+2)^{-1}$$

$$(y+2)^{-3}$$

$$\frac{1}{(y+2)^3}$$

R1.4

$$a = b^n$$

$$8 = 2^3$$

$$\sqrt[3]{8} = 2$$

$$8^{\frac{1}{3}}$$

$$4^2 = 16$$

$$\sqrt{16} = 4$$

$$16^{\frac{1}{2}}$$

Math

$$\sqrt[3]{}$$

$$4 \sqrt{}$$

$$64$$

$$\sqrt[4]{64}$$

$$8 \wedge (1 \div 3)$$

p R 30

$$\sqrt[n]{a^m} = (\sqrt[n]{a})^m$$

$$\sqrt[3]{8^2} = (\sqrt[3]{8})^2$$

$$\sqrt[3]{64} = (2)^2$$

$$4 = 4$$

$$\sqrt{2} \quad \sqrt{8}$$

$$\frac{\sqrt{16}}{4}$$

$$\frac{\sqrt{64}}{\sqrt{16}} = \sqrt{\frac{64}{16}}$$

$$\frac{8}{4} = \sqrt{4}$$

$$2 = 2$$

Radical Form Rational Form

$\sqrt{8}$

$8^{\frac{1}{2}}$

$\sqrt[3]{27}$

$27^{\frac{1}{3}}$

$\sqrt[4]{5^3}$

$5^{\frac{3}{4}}$

$\sqrt{16x^4y^2}$

$\sqrt{16} \sqrt{x^4} \sqrt{y^2}$

$4x^2|y|$

$\sqrt[3]{x^4} \sqrt[3]{y^2}$
 $x^{\frac{4}{3}} y^{\frac{2}{3}}$
 $x^2 y^1$

$\sqrt{36x^3y^5z^2}$

$\sqrt{36} \sqrt{x^3} \sqrt{y^5} \sqrt{z^2}$
 $6 \sqrt{x^2 \cdot x} \sqrt{y^2 \cdot y^3} \sqrt{z^2}$
 $6x^2y^2z \sqrt{xy^3}$

$x^{\frac{3}{2}}$
 $x^{1\frac{1}{2}}$
 $\sqrt[3]{y^4 \cdot y}$

$\sqrt[3]{49ab^3c^5d^6}$

$7b^2d^2 \sqrt{abc}$

$\sqrt{b^3}$
 $\sqrt{b^2 \cdot b}$
 $\sqrt{b^2} \sqrt{b}$
 $b\sqrt{b}$

$\sqrt[3]{8a^3b^4c^5}$

$2abc \sqrt[3]{bc^2}$

$\sqrt[4]{x^5y^9z^3}$

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

$$\sqrt{24}$$

$$\begin{array}{l} 1 \cdot 24 \\ 2 \cdot 12 \\ 3 \cdot 8 \\ 4 \cdot 6 \end{array}$$

$$\begin{array}{l} 2 \\ \cancel{6} \end{array} \downarrow$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$$5^2 = 25$$

$$6^2 = 36$$

$$\sqrt{6 \cdot 4}$$

$$\sqrt{6} \cdot \sqrt{4}$$

$$2\sqrt{6}$$

$$\sqrt{72}$$

$$\begin{array}{l} 1 \cdot 72 \\ 2 \cdot 36 \\ 3 \cdot 24 \\ 4 \cdot 18 \\ 6 \cdot 12 \\ 8 \cdot 9 \end{array}$$

$$\sqrt{36 \cdot 2}$$

$$\sqrt{36} \sqrt{2}$$

$$6\sqrt{2}$$

Simplest
Radical
Form

Rationalize the Denominator

$$\frac{\sqrt{3} \cdot \sqrt{3}}{3}$$

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

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

$$\frac{4}{(2-\sqrt{5})} \cdot \frac{(2+\sqrt{5})}{(2+\sqrt{5})} \quad \begin{array}{l} \text{Conjugate} \\ 2-\sqrt{5} \\ 2+\sqrt{5} \end{array}$$

$$\frac{8+4\sqrt{5}}{4+2\sqrt{5}-2\sqrt{5}-5}$$

$$\frac{8+4\sqrt{5}}{-1}$$

$$-(8+4\sqrt{5})$$

$$\boxed{-8-4\sqrt{5}}$$

$$\begin{array}{c} x^2 \cdot x \\ x^3 \end{array}$$

$$\begin{array}{c} 5^2 \cdot 5 \\ 5^3 \end{array}$$

$$\frac{2}{\sqrt[3]{5}} \cdot \frac{\sqrt[3]{5^2}}{\sqrt[3]{5^2}} = \frac{2 \sqrt[3]{25}}{\sqrt[3]{5^3}}$$

$$\frac{2 \sqrt[3]{25}}{5}$$

$$\frac{4}{\sqrt[3]{2}} \cdot \frac{\sqrt[3]{2^2}}{\sqrt[3]{2^2}} = \frac{4 \sqrt[3]{4}}{\sqrt[3]{2^3}}$$

$$\frac{4 \sqrt[3]{4}}{2}$$

$$2 \sqrt[3]{4}$$

$$2\sqrt{5} + 7\sqrt{5}$$

$$9\sqrt{5}$$

$$3\sqrt{2} + 6\sqrt{8}$$

$$3\sqrt{2} + 12\sqrt{2}$$

$$15\sqrt{2}$$

$$\begin{aligned} &\sqrt{8} \\ &= \sqrt{4 \cdot 2} \\ &= 2\sqrt{2} \end{aligned}$$

$$3\sqrt{2} \cdot 4$$

$$12\sqrt{2}$$