

Algebra 1

Chapter 7
Section 7-5

Radicals (Roots)

$$\sqrt{100} = 100^{\frac{1}{2}}$$

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

$$(\sqrt[4]{a})^3 = a^{\frac{3}{4}}$$

**Fraction
exponents
work the
same way
as radical
roots**

Exponential and Radical Forms

$$\sqrt[3]{g^{21}} = (g^{21})^{\frac{1}{3}} = g^7$$

$$\sqrt[4]{j^{20}} = (j^{20})^{\frac{1}{4}} = j^5$$

Radical Roots

$$\sqrt{49} = 7$$

$$\sqrt[9]{b^{27}} = b^3$$

$$\sqrt{x^{12}} = x^6$$

$$\sqrt[5]{243} = 3$$

$$\sqrt{64s^4} = 8s^2$$

$$\sqrt[3]{64y^9} = 4y^3$$

Radical Form and Exponent Form

$$\sqrt{3x^3} = (3x^3)^{\frac{1}{2}}$$

$$\sqrt[12]{x^5} = x^{\frac{5}{12}}$$

$$8s^{\frac{5}{2}} = 8\sqrt{s^5}$$