Name: _____

Lesson Guide

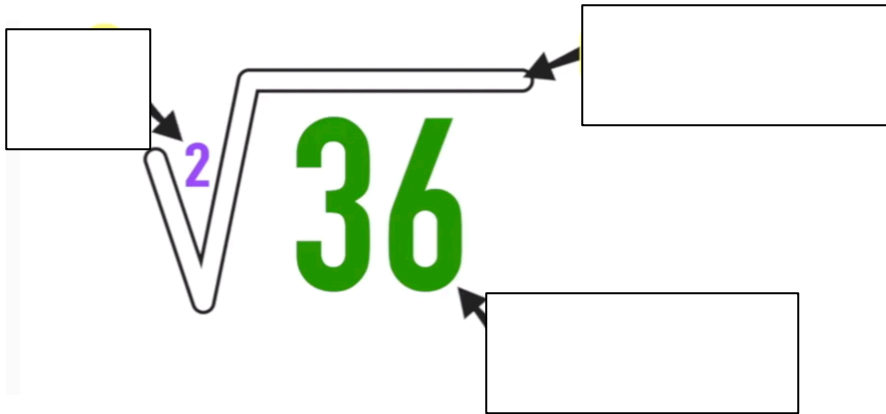This lesson guide accompanies the following video lesson:

Fractional Exponents

$$\sqrt[b]{X^a} = X^{\frac{a}{b}}$$

$$b \neq 0$$

▶ **Key Questions and Info:**

Quick Review of Radicals

$$\sqrt[2]{36}$$

$$\sqrt[2]{36} = 6 \quad \text{Because}$$

$$\sqrt[3]{64} = \boxed{} \quad \text{Because}$$

A [_____] is another way of expressing powers and roots together!

Example 01

$$\sqrt[\square]{49^{\square}} = 49^{\square}$$

Both are [_____] and equal to 7.

Example 02

$$\sqrt[3]{27^{1}} = 27^{\square}$$

Both are equivalent and equal to [□]

Example 03

$$\sqrt[5]{8^3} =$$

My Answer: _____

Both are equivalent and equal to approximately [ ]

RULE: Fractions as Exponents

$$\sqrt[b]{x^a} = x^{\frac{a}{b}}$$

$$b \;[\;]\; 0$$

Why do think it is important to note that $b \neq 0$ **?**