## Simplifying Expressions With Rational Exponents Guided Lesson Explanation

1. Fractional exponents can be simpliefied using the following formula.

$$a^{b/c} = \sqrt[c]{(a)^b}$$

Applying this to our problem, we will get:

$$\sqrt[3]{(36)^2}$$

$$\sqrt[3]{(1,296)} = 10.90$$

2. 
$$\frac{\frac{7}{7^{\frac{4}{4}}}}{\frac{3}{7^{\frac{4}{4}}}}$$

$$=7^{\frac{7}{4}-\frac{3}{4}}$$
 We would subtract the numerators.

$$=7^{\frac{4}{4}}=7$$

3. 
$$(\frac{4}{15})^{-3}$$

A negative exponent of a fraction can be made positive by taking the reciprocal of the fraction.

$$\left(\frac{4}{15}\right)^{-3} = \left(\frac{15}{4}\right)^3 = \frac{3375}{64} = 52 \frac{47}{64}$$