

**Properties of Exponents and Roots - Step-by-Step Lesson****Lesson 1 Exponents and Roots Problem:**

1. Rewrite the exponent in root form and calculate its value to three significant figures:

$$3^{1/3}$$

**Explanation:**

We currently have the value in exponent form. We want to convert it to a root value. The good thing is that exponents and roots are just the opposite of one another.

Take a quick look:

$$4^2 = 16 \quad \text{is the same as} \quad 4 = \sqrt{16}$$

The problem we are working on is a bit trickier because the exponent value is a fraction. When working with fractional exponents, the inverse roots are, also equal, for example:

$$4^{1/2} = \sqrt{4}$$

$$4^{1/3} = \sqrt[3]{4}$$

Now, back to our problem:  $3^{1/3}$

The cube (or "third") root is the one-third power.

$$3^{1/3} = \sqrt[3]{3}$$

$$\sqrt[3]{3} = 1.44$$

