In this sections we will discuss

* Rational exponents
* Negative Rational exponents
* Laws of exponents
* Simplifying Radical expressions

## Rational Exponents, Negative Rational exponents, & Laws of Exponents:

Def:

Then

And

In fact all the regular laws for exponents still apply if m and n are rational numbers as well as integers!!

## Recall again some basic facts of exponents:

Def: In the exponential expression the number 2 is called the **base** and the number 3 is called the **exponent.**

Def: The notation is **exponential notation** for *repeated multiplication*. **It means the base number is being multiplied the number of times equal to the exponent**.

Recall *Rules of Exponents* (unless you already have these at your fingertips, need to review these rules)

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These rules were presented to you where and are integers. The same rules apply even if the exponents are rational.

## Simplifying Radical Expressions

Hints to Simplify Radical expressions:

1. Convert radical expressions to exponential expressions.
2. Use arithmetic and the laws of exponents to simplify.
3. Convert back to radical notation as needed.



















