Name _____ Date _____

Rational and Irrational Numbers - Guided Lesson Explanation

Start by stating what you know about rational and irrational numbers.

An irrational number can be written as a decimal, but not as a fraction. They are made up of non-repeating numbers and seem like a series of endless digits.

Example:

Pi (π) = 3.1415926535…… (there is no ratio to be had here.)

A rational number is a number that can be written as a ratio. That means it can be written as a fraction. Both the numerator and denominator of the fraction are whole numbers.

Example:

4.5 = $\frac{9}{2}$ (a clear ratio can be found here.)

Explanation #1

√18 = 4.24264068…

This number does not terminate and seems endless; this number is an irrational number.

Explanation #2

0.33 = 0.333333…

The digits in this number repeat; this number is a rational number.

Explanation #3

√49 = 7

This number terminates; this number is a rational number.