Grade 8 – Unit 1

Rational vs. Irrational Numbers

Parent Letter

Dear Eighth Grade Families,

In Unit 1, students will work on the following eighth grade Common Core standards in the Number System (NS) domains.

8.NS.1	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2)

Unit 1 Concepts:

- Compare and Order Rational vs. Irrational Numbers
- Decimal Expansion
- Converting Decimals to Fractions
- Estimating Irrational Numbers

Unit 1 Vocabulary:

- Natural numbers
- Whole numbers
- Integers
- Squared numbers
- Real numbers
- Rational numbers
- Irrational numbers
- Repeating decimal
- Square root
- Vinculum
- Increase exponentially

Rational Numbers

$\frac{x}{y}$

integers and y ≠ zero.

$2.5 = \frac{5}{2} = Ratio$

Irrational Numbers

0.101101110… ,

$\sqrt{\frac{2}{3}}, \pi, \sqrt{10}, \sqrt{1.6}, -\sqrt{123}$

Ask questions like these to help your child as a productive mathematical thinker:

- What do irrational numbers represent?
- How can you tell if your answer makes sense?
- How can you prove that a given fraction is rational?
- When would using a repeating decimal be important?
- How would describe the process of converting repeating decimals into fractions?

Need a review?

Have your student login to Swun Math to access lesson support videos.

We encourage you to talk with your child daily about what was learned in math class.
Thank you for your support!