

Date: Monday, October 13, 2014

Lesson Plan Title: Lesson 4-7: The Real Numbers (Page 195-198)- Classifying Numbers- Day 1

Concept/Topic to Teach: Classifying Real and non-real numbers

Standards:

- a. CCSS.MATH.CONTENT.8.NS.A.1
Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers demonstrate that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
- b. CCSS.MATH.CONTENT.8.NS.A.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). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

General Goals(s)/Learning Targets: I can classify numbers.

Specific objectives/Essential Question: How does an understanding of classifying numbers help students with expression and equations?

Required Materials:

- Holt McDougal Mathematics Course 3 Text Book
 - Lesson 4-7 page 197: Book Problems 5-59 (odds)
- PowerPoint- Guided Notes and modeled problems with classifying numbers
- Post It notes- create a set of 40
- Concentric Circles Sheet for Classifying Numbers Activity

Anticipatory Set (Warm-up): The Teacher will hand out the classifying numbers warm-up and exit ticket sheet to each student. The students will complete the Warm-up on classifying numbers. The students will be asked (written responses) to define and give examples for each classification of numbers. While the students are completing their warm-up, the teacher will dismiss each column to place their sticky note number on the concentric circles where they think what their number is classified as.

Step by Step Procedures:

- Planner Check and take attendance while students are working on their warm-up and placing their number under the number classification definition.
- Homework check on weekend's worksheet on Properties of Exponents Review 1 and 2.
 - The teacher will post an answer key on the projector using the Hover camera. The students will check their homework while their peers are completing their warm-

up on reviewing types of numbers vocab and placing their numbers on the real/non real concentric circles.

- Classifying Numbers Activity- Students will receive a stick note and they will need to place the number in the circle where they believe the numbers exist. Once everyone places their number, the teacher will lead into a class discussion with their students about what they notice and how they know if the numbers are classified correctly. Can a number have more than one classification?
- Guided Notes on the Real Numbers
 - Vocab:
 - Real
 - Rational
 - Fractions
 - Terminating Decimals
 - Repeating Decimals
 - Integers
 - Whole Integers
 - Natural Numbers
 - Irrational
 - Non- Real
 - Guided Problems on Classifying Numbers using Concentric circles
 - Density Property and examples
 - Why do we need to classify items in math classes? Where do we classify items in other subjects
 - Make a connection with classification in science classes.

Plan for Independent Practice (Homework):

Book Problems: Lesson 4-7 page 197: Book Problems 5-59 (odds)

Closure: The students will complete the exit ticket on their handout. They will write (reflect) what they learned in math class today and if they have any further question(s).

Assessment based on Objectives (Types of Assessment used in Lesson):

- Auditory: Responding to questions and class discussions
- Kinesthetic: Movement and placing their sticky note in the real and no real number sets.
- Visual: Classifying numbers activity, Classifying numbers PowerPoint

Possible Connections to Other Subjects (Inter-disciplinary): Classifications in Science- classification of rocks (Earth Science/Geology) and living things (Biology)