Real Number System – Station 1

This station will review the following standards covering the real number system.

8.NS.1 - Explore the real number system and its appropriate usage in real-world situations.

- Recognize the differences between rational and irrational numbers.
- Understand that all real numbers have a decimal expansion.
- Model the hierarchy of the real number system, including natural, whole, integer, rational, and irrational numbers.

Assignment #1

Complete each of the three activities for this station.

___Part 1
___Part 2
___Part 3

Assignment #2

Log on to the computer and to the following website.

www.quizalize.com

Log in as a student, put in your name and enter the class code: ehb953

Complete the assignment on Integers in the real world. Record your grade below when finished.

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When you finish…

- Hold onto until Monday when we will turn all station work in.
- If you finish early, please work on your exam study guide.
The Number System
Set 2: Rational and Irrational Numbers

Station 1
You will need a calculator for this activity.

Use the calculator to help you write each of the following numbers as a decimal. Work together to decide how to use the calculator to convert the numbers to decimals.

1. \( \frac{7}{8} \)  
2. \( \frac{2}{9} \)  
3. \( 4\frac{1}{6} \)  
4. \( \sqrt{196} \)  
5. \( \sqrt{17} \)  
6. \( \pi \)  
7. \( (2.5)^3 \)  
8. \( \frac{1}{12} \)

Work together to identify the numbers that have terminating decimals. Write them below.
______________________________

Work together to identify the numbers that have repeating decimals. Write them below.
______________________________

Write the numbers that do not appear to have terminating or repeating decimals.
______________________________

What can you say about the numbers that don’t have terminating or repeating decimals?
______________________________
______________________________
______________________________
Station 2
You will find a number cube at this station. Use the number cube to create square roots.

Roll the number cube two times. Write the two numbers in the boxes inside the radical sign below.

\[ \sqrt{\phantom{00}} \phantom{00} \]

Work with other students to decide if the radical is a rational number or an irrational number. Write your answer below. Give a reason for your answer.

__________________________________________

Repeat the process four more times.

\[ \sqrt{\phantom{00}} \phantom{00} \]
\[ \sqrt{\phantom{00}} \phantom{00} \]
\[ \sqrt{\phantom{00}} \phantom{00} \]
\[ \sqrt{\phantom{00}} \phantom{00} \]

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The Number System
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Station 3
You will find a set of 10 cards at this station. The cards have the following numbers written on them:

0  \( \frac{3}{5} \)  \( \sqrt{2} \)  0.\(\overline{8} \)  \( \pi \)  \( \sqrt{4} \)  \( \sqrt{16} \)  -2  \( \sqrt{5} \)  4.173

Work with other students to sort the cards into two piles. One pile should contain only rational numbers. The other pile should contain only irrational numbers.

Write your results below.

Rational: ____________________________________________________________

Irrational: __________________________________________________________

Work together to check that you have sorted the numbers correctly. Describe any strategies you could use to solve this problem.

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