

NAME: _____

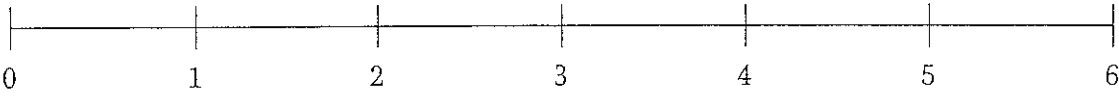

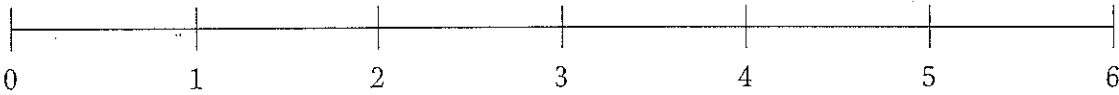
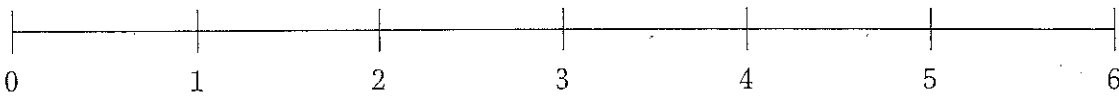
The Number System

Set 1: Rational and Irrational Numbers

Station 1

At this station, you will find a number cube and a calculator. Follow these steps for each problem:

- Roll the number cube. Write the result on the first line next to the problem number.
- Then, write the same number in the box under the square root symbol on the second line.
- Use your calculator to find the value of the square root of the number you rolled. Round to the nearest hundredth and write this number on the third line.
- Finally, place the original number you rolled and the square root of that number on the number line.

Number rolled	Square root	Calculated value of square root
1. _____	$\sqrt{\square}$	_____
		
2. _____	$\sqrt{\square}$	_____
		
3. _____	$\sqrt{\square}$	_____
		
4. _____	$\sqrt{\square}$	_____
		

5. What strategy did you use to place the irrational numbers on the number line?

The Number System**Set 1: Rational and Irrational Numbers****Station 2**

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. $\frac{7}{8}$

5. $\sqrt{2}$

2. $\frac{2}{9}$

6. π

3. $4\frac{1}{6}$

7. $(2.5)^3$

4. $\sqrt{81}$

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?

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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 $\frac{3}{5}$ $\sqrt{2}$ $0.\overline{8}$ π $\sqrt{4}$ $\sqrt{16}$ -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.
