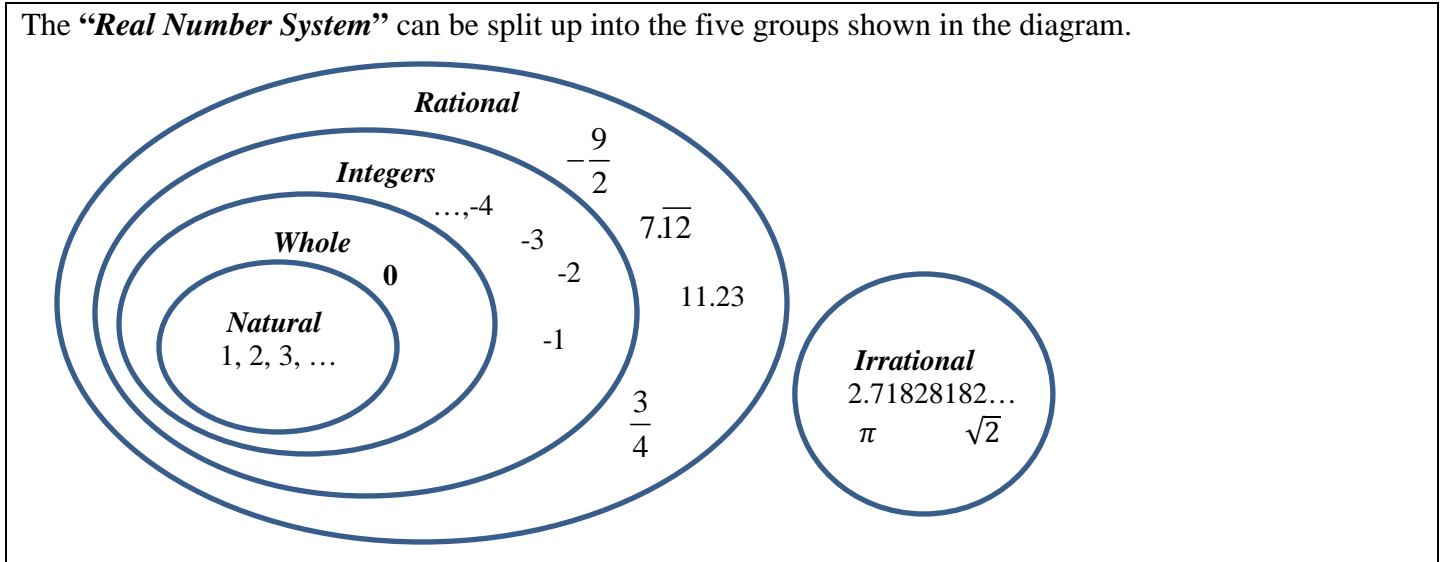


The Number System

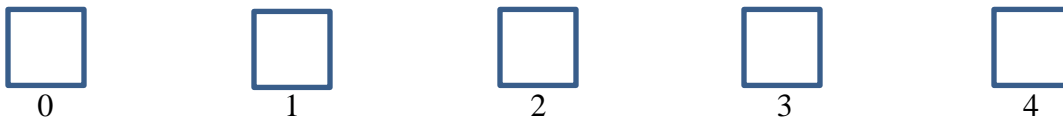
1. What are numbers?
2. What are three different uses for numbers?

The “*Real Number System*” can be split up into the five groups shown in the diagram.



Use *whole numbers* in the following activity. *Whole numbers* include all of the *natural numbers* as well as the number 0. *Natural numbers* are sometimes called the counting numbers.

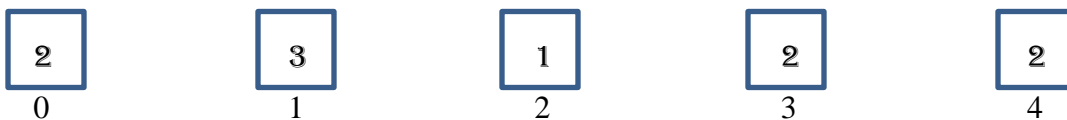
Your task is to put a digit from 0 through 4 *inside* each of the boxes so that certain conditions hold:



- The digit you put in the box labeled “0” must be the same as the number of 0’s you use.
- The digit you put in the box labeled “1” must be the same as the number of 1’s you use.
- The digit you put in the box labeled “2” must be the same as the number of 2’s you use, and so on.

You are allowed to use the same digit more than once.

Here is an example, although it is **not** correct.



This is incorrect for many reasons. For example, there is a 1 in the box labeled “2,” but three 2s were used in the boxes. Similarly, there is a 2 in the box labeled “4,” but the number of 4’s used is not equal to 2.

Try to correctly complete the task. Is more than one solution possible, why or why not?

The Number System *Integers*

Fix these equations! The equations below include *integers* and they are missing the operation signs. Fill in each box with the correct sign. You may select operations that are listed below, and they may be used more than once in each problem.

+	-	×	÷
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1.) $0 \square 3 = -3$

7.) $6 \square -3 = -2$

2.) $0 \square 3 = 0$

8.) $6 \square -3 = 3$

3.) $0 \square 3 = 3$

9.) $8 \square -3 = 5$

4.) $2 \square 3 = 6$

10.) $8 \square -3 = 11$

5.) $2 \square 3 \square 2 = 4$

11.) $2 \square 5 \square 2 = -1$

6.) $-2 \square -3 = 6$

12.) $2 \square 5 \square 2 = 8$