

Quality Introduction to 5S 155

In mathematics, you'll see many references about numbers. Numbers are classified by groups and initially it may seem confusing but as you work with numbers, they will soon become second nature to you. Below is a breakdown of how we classify numbers. This should help put some order to our number systems.

Natural Numbers

Natural numbers are what you use when you are counting objects. You may be counting parts, inspections completed, or cookies. When you use 1,2,3,4 and so on, you are using the **counting numbers** or to give them a proper title, you are using the **natural numbers**.

Whole Numbers

Whole numbers are easy to remember. They're not fractions. They're not decimals. They're simply whole numbers. The only thing that makes them different than natural numbers is that we include the zero (**the number with a hole in it**) when we are referring to whole numbers. **Whole numbers** are 0, 1, 2, 3, 4, and so on.

Integers

Integers can be whole numbers or they can be whole numbers with a negative sign in front of them. Individuals often refer to integers as the positive and negative numbers. **Integers** are - 4, - 3, - 2, - 1, 0, 1, 2, 3, 4 and so on.

Rational Numbers

Rational numbers have integers AND fractions AND decimals. Rational numbers can also have repeating decimals which you will see be written like 0.54444444... This means it repeats forever.

Irrational Numbers

Irrational numbers don't include integers OR fractions. However, irrational numbers can have a decimal value that continues forever WITHOUT a pattern, unlike the example above. Pi is an example of an irrational number which is 3.14. If we look deeper at it, it is actually 3.14159265358979323846264338327950288419...

Real Numbers

Here is another category where some other number classifications will fit. Real numbers include natural numbers, whole numbers, integers, rational numbers and irrational numbers. Real numbers also include fraction and decimal numbers.

$$\{-9, -\frac{3}{5}, 0, 0.1, \sqrt{25}, \pi, 6.5, \sqrt{5}, 6\}$$

From the list above write all that fit in each number group

Natural Numbers

Whole Numbers

Integers

Rational Numbers

Irrational Numbers

Real Numbers



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