Introduction To Real Numbers

Numbers are placed in sets that is a collection of elements. Those Elements can be:

1. **Positive Numbers (Natural Number)**

2. **Zero**

3. **Negative Numbers.**

4. **The Natural numbers can be:**
   
   a. a Prime number, when it the number is greater than 1 and it is divisible evenly by itself and 1

   b. a Composite number: when the number is not prime, or on another words a number that is multiple of primes.

5. **Whole Numbers:** Are comprised of the natural numbers and zero.

6. **Integers:** Are comprised of the whole numbers and the negative numbers.

7. **Rational Numbers:** Numbers that include fractions and decimal numbers.

8. **Irrational Number:** Numbers that have decimal representation that neither terminates nor repeats.

9. **Real number:** Irrational number + Rational number.
The graph of a real number is made by placing a solid point on the number line. This type of number line is known as the real number line.

In the example above only -5, -2.34, -1/2, 5/3, \( \pi \) and \( \sqrt{17} \) have been graphed. To include the values in between two values on the line an area would need to be shaded.

In the example above all of the values between 3 and 5, including 3 and 5 have been graphed as part of a solution.

To not include the endpoints of 3 and five, the dots would not have been shaded.