

## Real numbers

- the set of natural numbers consists of  $(1, 2, 3, 4, \dots)$   $\boxed{N}$
- the set of whole numbers consists of the natural number plus zero  $\boxed{N_0}$
- the set of integers consists of the whole numbers and their opposites.  $\boxed{Z}$
- a rational number is one that can be expressed as a ratio of two integers  $A$  and  $B$ . Where  $B$  isn't equal to zero. Any rational number can be written as a fraction, and any fraction can be written as either a terminating decimal or a repeating decimal  $\boxed{Q}$
- an irrational number is one that cannot be written as  $\frac{a}{b}$ ,  $B \neq 0$ , but can still be designated by point on the number line. They are nonterminating and non-repeating decimals. For example, if  $A > 0$  and its not square of rational number,  $A \neq k^2$ ,  $\sqrt{A}$  is an irrational number.  $\boxed{R \setminus Q}$
- all these sets of numbers belong to one set named the set of real numbers. Positive or negative, large or small, whole numbers or decimal numbers are REAL NUMBERS!  $\boxed{R}$

