

## NOTATION

They say that Mathematics is an international language, but... handwriting can be different from country to country!

e.g.: My numbers:

0, 1 or 1, 2, 3, 4, 5, 6, 7, 8, 9 or 9

not to be confused with the letter "g" of "gorilla."

Moreover, it can be useful to know the following notation:

- $\mathbb{N} = \{0, 1, 2, 3, \dots\}$  is the set of natural integers.
- $\mathbb{Z} = \{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$  is the set of integers with sign.
- $\mathbb{Q} = \left\{ \frac{a}{b} \right\}$ , where  $a, b$  are in  $\mathbb{Z}$  with  $b \neq 0$  is the set of rational numbers (fractions)
- $\mathbb{R}$  is the set of real numbers:  
 $\mathbb{R} = \mathbb{Q} \cup \{\text{irrational numbers}\}$ .
- $\in$  = "belongs to": it is used for saying that an element belongs to a set.
- $\notin$  = "does not belong to"

e.g.:  $\pi \in \mathbb{R}$  but  $\pi \notin \mathbb{Q}$

$\pi$ , the constant of the circle  $\sim 3.14$

$\pi$  is a real number but not a rational number (it is indeed an irrational number)

- $\subseteq$  = "is contained in" : it is used for saying that a set is contained in another set.
- $\supseteq$  = "contains"
- $\not\subseteq$  = "is not contained"
- $\not\supseteq$  = "does not contain"

e.g. :  $\mathbb{N} \subseteq \mathbb{Z}$  ;  $\mathbb{R} \supseteq \mathbb{Q}$

↓  
N is contained in Z  
because all natural  
numbers are integers