In my lectures, I often use the following mathematical notations, which speed up my blackboard writing. Please make sure that you understand these notations:

- $\mathbb{N}$:= the set of natural numbers = the set of positive integers (not including zero)
- $\mathbb{Z}$:= the set of integers
- $\mathbb{Q}$:= the set of rational numbers
- $\mathbb{R}$:= the set of real numbers
- $\mathbb{C}$:= the set of complex numbers
- $\in$:= belongs to
- iff := if and only if
- $\Longleftrightarrow$:= if and only if
- $\Rightarrow$:= implies
- $\forall$:= for all
- $\exists$:= there exists
- s.t. := such that
- bdd := bounded
- bd := bound
- l.u.b. := the least upper bound

Here are some actual examples:

- " $\forall x \in \mathbb{R}$ " means "for all real-valued x."
- " $\forall n \geq \exists N \in \mathbb{N}$ " means "for all n larger than or equal to a certain natural number N."