Def: Set X is said to be finite if X is empty or if we can find a natural number $n \geq 1$, such that there exist a one-to-one correspondence (bijection) from X to $\{1, \dots, n\} \subset \mathbb{N}$. Set X is said to be infinite if it is not finite

Def: cardinality of a finite set X is the number of its elements

Def Sets X and Y are equivalent (have the same cardinality) if exists a bijection $f: X \to Y$

Def: Set X is said to be countable, if there exists a bijection between X and the set of natural numbers

Def cardinality of set A does not exceed the cardinality of set B if there exists an injection $f: A \to B$

Theorem (Cantor - Bernstein) if cardinality of set A does not exceed the cardinality of set B and -||- B A then sets A and B have the same cardinality