

Definition : A function $f : D \rightarrow C$ is **one-to-one** (or injective) means for every a, b in the domain D , if $f(a) = f(b)$ then $a = b$. **Definition:** For sets A, B , we say that **the cardinality of A is no bigger than the cardinality of B** , and write $|A| \leq |B|$, to mean there is a one-to-one function with domain A and codomain B .