

Definition: Cardinality of a Finite Set

Given a nonempty set X we say that X is finite if there is some $n \in \mathbb{N}^{\geq 1}$ such that we have a bijection

$$f : X \rightarrow [n]$$

And we say that X has cardinality n and write $|X| = n$. We define $|\emptyset| = 0$