

## ACTIVITY 1.X

### The Natural Numbers

- (1)  $X$  is a set satisfying the Peano's axioms. Consider the function,  $f : \mathbb{N} \rightarrow X$  such that  $f(1) = 1_X$  and  $f(n+) = f(n)+$  for all  $n \in \mathbb{N}$ . Show that  $f$  is one-one using mathematical induction.