

# Sets

Sets:

- A collection of objects from a pool of objects
- Objects are called elements
- $\{ x \in A \mid P(x) \}$  = Set containing all objects in  $A$  that satisfy  $P(x)$
- $a \in A$  =  $a$  is an element of  $A$ .
- $a \notin A$  =  $a$  is not an element of  $A$ .
- $\mathbb{N}$  = set of Natural numbers
- $\mathbb{Z}$  = set of Integers
- $\emptyset$  = empty set.
- $\triangleq$  = is defined as. An equality you don't need to solve.
- Each set  $A$  comes equipped with an equality relation  $=_A$ , that tells us whether two elements of  $A$  are the same