

## Examples

- Whenever we write

$$A = \{x \in U : P(x) \text{ is true}\},$$

we are implicitly defining  $A$  as a subset of  $U$ .

- We have

$$\{x \in \mathbb{R} : x^2 - 4 = 0\} \subsetneq \{x \in \mathbb{R} : x^2 \in \mathbb{Z}\}.$$

- If  $a\mathbb{Z}$  is all of the multiples of  $a$ , then

$$a\mathbb{Z} \subseteq b\mathbb{Z} \iff b|a.$$