# 1 Sets

We have no need to dive deeply into set theory, but I believe it will be helpful for us to have some of its tools and language. A **set** is really just a collection of objects, often selected from some particular larger collection of objects. For example, we can define $\mathbb{Z}$ to be the set of all integers

$$\mathbb{Z} = \{\ldots, -2, -1, 0, 1, 2, \ldots\}.$$

An object $x$ inside a set $A$ is called an **element** of the set, and this relation is denoted $x \in A$ (which one can read as "$x$ belongs to $A$" or "$x$ is in $A$").