



# Absolute Value

## 1 Why

We want a notion of distance between elements of the real line.

## 2 Definition

We define a function mapping a real number to its length from zero.

### 2.1 Notation

We denote the absolute value of a real number  $a \in \mathbf{R}$  by  $|a|$ . Thus  $|\cdot| : \mathbf{R} \rightarrow \mathbf{R}$  can be viewed as a real-valued function on the real numbers which is nonnegative.