



Why

We represent rectangles by functions.

Definition

A *rectangular function* corresponds to a characteristic function of an interval. It represents a rectangle whose width is the interval and whose height is one.

Notation

Let A be a non-empty set and $B \subset A$. Recall that we denote the characteristic function of B by χ_B .

Now suppose that $A \subset \mathbf{R}$. If we embed $\{0, 1\} = 2 \in \mathbf{N}$ in \mathbf{R} by associating 0 to $0_{\mathbf{R}}$ and 1 to $1_{\mathbf{R}}$ then every characteristic function is identified with a function from \mathbf{R} to \mathbf{R} .

In particular, notice that if B is an interval and α is a real number then $\alpha\chi_B$ is a rectangle with height α .

