



**Why**

We want to talk about which sets of points correspond to rectangles in the real plane.

**Definition**

A *rectangle* is the cartesian product of two intervals. We clarify in the case that the intervals are either closed or open. In these cases we call it an *open rectangle* or a *closed rectangle*. If both intervals are half-open on the left or right we call it a *left-open rectangle* or *right-open rectangle* respectively.

**Notation**

Let  $[x_1, x_2], [y_1, y_2] \in \mathbf{R}^2$ . Then  $[x_1, x_2] \times [y_1, y_2]$  is a closed rectangle.



