



## Why

In order to speak of the derivative of a function  $f : (a, b) \rightarrow \mathbf{R}$  at some point  $x_0 \in \mathbf{R}$ , we took a limit of deviations from that point. In other words,

<sup>1</sup>

## Definition

A subset  $U \subset \mathbf{R}^n$  is *open* if for every point  $x \in U$  there exists a real number  $\varepsilon > 0$  so that  $B(x, \varepsilon) \subset U$ .

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<sup>1</sup>Future editions will include.



