



Why

Once we have a notion of distance, we can define a more general notion of convergence.

Definition

Let (X, d) be a metric space and let $(x_n)_{n \in \mathbf{N}}$ be a sequence in X . A *limit* of $(x_n)_{n \in \mathbf{N}}$ is an element $x \in X$ for which $d(x, x_n) \rightarrow 0$.

