Metric Convergence

1 Why

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

2 Definition

A sequence of elements of a metric space **converges** to an fixed element of the space if the sequence of distances between the elements of the fixed element converges to zero.

2.1 Notation

Let (A, d) be a metric space. Let $\{a_n\}_n$ be a sequence in A Then $\{a\}$ converges to a_0 if $d(a_n, a) \to 0$.