

REAL LIMIT ALGEBRA

Why

Consider two convergent sequences. What if we add them termwise? Or multiply?

Main results

Proposition 1. Let $(x_n)_{n \in \mathbb{N}}$ and $(y_n)_{n \in \mathbb{N}}$ be two limits with x_0 and y_0 in \mathbb{R} . Then the sequence (s_n) defined by $s_n = x_n + y_n$ converges to the limit $x_0 + y_0$ and the sequence $m_n = x_n y_n$ converges to the limit $x_0 y_0$.¹

In particular for $a \in \mathbb{R}$, the sequence (c_n) defined by $c_n = ax_n$ converges to the limit ax_0 .

¹Future editions will include the account.

