

## 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  $x_0 y_0$ .

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

<sup>&</sup>lt;sup>1</sup>Future editions will include the account.

