

7th lesson

<https://www2.karlin.mff.cuni.cz/kuncova/en/teachMat1.php>
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Theory

Theorem 1. Every monotonous sequence has a limit.

Theorem 2. Let $\{b_k\}$ be a subsequence of $\{a_n\}$. If $\lim_{n \rightarrow \infty} a_n = A \in \mathbb{R}$, then also $\lim_{k \rightarrow \infty} b_k = A$.

Exercises

1. Find limits:

(a) $x_1 = \sqrt{2}, x_n = \sqrt{2 + x_{n-1}}$

(b) $x_1 = 2, x_{n+1} = \frac{1}{3-x_n}$