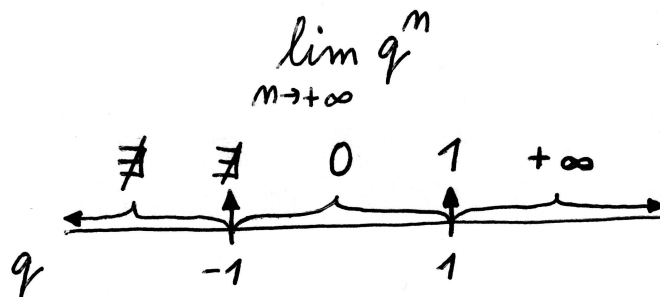


VÝZNAMNÉ LIMITY POSLOUPNOSTÍ

$$\lim_{n \rightarrow +\infty} q^n = \begin{cases} \nexists & \text{pro } q \in (-\infty, -1), \\ 0 & \text{pro } q \in (-1, 1), \\ 1 & \text{pro } q = 1, \\ +\infty & \text{pro } q \in (1, +\infty). \end{cases}$$

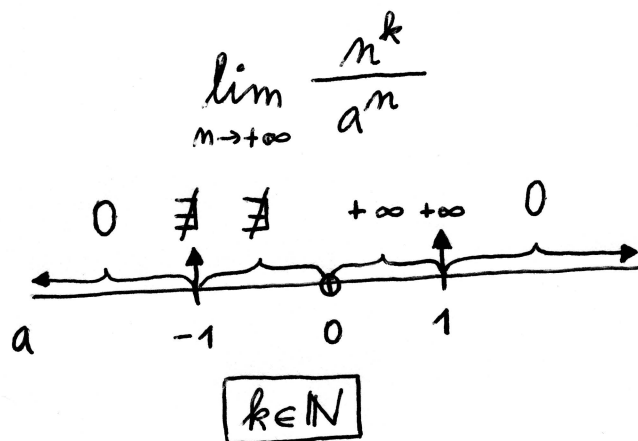


$$\lim_{n \rightarrow +\infty} \sqrt[n]{n} = 1.$$

$$\lim_{n \rightarrow +\infty} \sqrt[n]{a} = 1, \quad a > 0.$$

$$\lim_{n \rightarrow +\infty} \frac{\log_a n}{n^k} = 0, \quad a > 0, a \neq 1, k \in \mathbb{N}.$$

$$\lim_{n \rightarrow +\infty} \frac{n^k}{a^n} = \begin{cases} 0 & \text{pro } a \in (-\infty, -1), \\ \nexists & \text{pro } a \in (-1, 0), \\ +\infty & \text{pro } a \in (0, 1), \\ 0 & \text{pro } a \in (1, +\infty). \end{cases}$$



$$\lim_{n \rightarrow +\infty} \frac{a^n}{n!} = 0, \quad a \in \mathbb{R}.$$

$$\lim_{n \rightarrow +\infty} \frac{n!}{n^n} = 0.$$

$\ln n \ll n \ll e^n \ll n! \ll n^n$