Chapter 1

Series of Functions

Proposition 1.

$$\lim_{n\to\infty} a_n = b$$

if and only if

$$\lim_{n\to\infty} \sup a_n = \lim_{n\to\infty} \inf a_n = b$$

Proof.

Proving the left implication first Assuming $\lim_{n\to\infty} \sup a_n = \lim_{n\to\infty} \inf a_n = b$. We then have

$$m_n < a_n < M_n$$

□