

Exercises

E7.1 [OCP] Prerequisites: [20M].

We have that $\sup_{n \geq N} a_n = \sigma \in \overline{\mathbb{R}}$ if and only if

$$\forall n \geq N, a_n \leq \sigma \quad \text{e} \quad (7.1)$$

$$\forall L < \sigma, \exists n \geq N, a_n > L \quad (7.2)$$

(note that if $\sigma = \infty$ the first is trivially true, while if $\sigma = -\infty$ the latter is true because there are no L).

Solution. [OCQ]

