

Übungsblatt 7

Abgabe am 17.12.2019 vor der Vorlesung

Exercise 1. (4 points) Let $\kappa > \omega$ be a regular cardinal. Show that a set $X \subseteq \kappa$ is closed if and only if it closed with respect to the order topology on κ .

Exercise 2. (4 points) Let $\kappa > \omega$ be a regular cardinal and $X \subseteq \kappa$ consist of only successor ordinals.

- a) Can X be club?
- b) Can X be a stationary set?

Now consider $X' \subseteq \kappa$ to be a subset that only consists of limits of successor ordinals.

- c) Can X' be a stationary set?

Exercise 3. (4 points) Let A be a set of infinite cardinals such that for all regular λ the set $A \cap \lambda$ is not stationary in λ . Show that there is an injective function g on A such that $\forall \alpha \in A (g(\alpha) < \alpha)$.