

Übungsblatt 5

Abgabe am 3.12.2019 vor der Vorlesung

Exercise 1. (4 points) Show that for κ regular cardinal,

$$\exists\kappa\text{-Kurepa tree} \Leftrightarrow \exists\kappa\text{-Kurepa family}$$

Exercise 2. (4 points) Let D be a countable total order with no first or last element and dense in itself, i.e. $\forall x, y \in D (x < y \Rightarrow \exists z (x < z < y))$. Then $(D, <)$ is isomorphic to the rational numbers $(\mathbb{Q}, <)$.

Exercise 3. (4 points) Assume $\kappa = \lambda^+$, for λ regular and so that $2^{<\lambda} = \lambda$. Then there is a κ -Aronzjain tree. (*Hint:* when defining the s_α 's as in the proof, make sure you require $\text{ran}(s_\alpha)$ to have sufficiently many holes ...)