

Exercises

E3.291 [04G] Prerequisites: [08Z].

A set A is called *Dedekind–infinite* if A is in bijection with a proper subset, that is if there is $B \subset A, B \neq A$ and $h : A \rightarrow B$ bijection. Show that a set A is *Dedekind–infinite* if and only if there is an injective function $g : \mathbb{N} \rightarrow A$. (This result does not require the axiom of choice.)

Solution 1. [04H]