

Analysis 1: Chapter 3

Set Theory Exercises

Problem (Exercise 3.4.6). *Let X be a set. Show that the collection of all subsets of X is a set.*

Proof. Appealing the Axiom of Infinity and the Pair Set Axiom we have that $\{0, 1\}$ is a set. By the Power Set Axiom there exists a containing all functions from X to $\{0, 1\}$ which we shall denote as $\{0, 1\}^X$ □
