Homework 4 for
MATH 561, Set Theory

Due: Thursday Mar 1

Problem 1 – Absoluteness of cardinals

Jech, Exercise 12.6 (p. 171)

Problem 2 – The "hereditary" hierarchy, I

Find the definition of H_κ just before Exercise 12.13 on p. 171. Verfiy $H_\kappa \subseteq V_\kappa$ for all infinite κ (not just the regular ones), and show (assuming AC) that

$$H_\kappa = V_\kappa \quad \text{iff} \quad \kappa = \omega \text{ or } \kappa \text{ is strongly inaccessible.}$$

Problem 3 – The "hereditary" hierarchy, II

Jech, Exercise 12.13 (p. 171)

Problem 4 – Reflection in cumulative hierarchies

Jech, Exercise 12.16 (p. 171)