Mathematical Methods for Philosophy:
Problem Set 6

**Due Date:** This problem set is due December 14th, 2013. Please either bring the problem set to my office or turn it into Maria Csauscher in Room 131 in Ludwigstraße 31.

**Problems from Hrbacek and Jech's *Introduction to Set Theory*:**

- Chapter 1, Section 3: Exercises 3.1-3.3 and 3.6.
- Chapter 1, Section 4: Exercise 4.3.
- Chapter 3, Section 1: Exercise 1.1.
- Chapter 3, Section 2, Exercises 2.1 and 2.2. Ignore everything after the word "therefore" in Exercise 2.2.

**Exercise 1** *Prove the following two equations, and draw (labeled) Venn diagrams to confirm them.*

$$A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$$

$$C \setminus (A \cup B) = (C \setminus A) \cap (C \setminus B)$$