MATH 205: Homework 1
Due Wednesday April 4

Problems are from Boller and Sally. I recommend at least thinking about all the exercises, even if they are not assigned, as you read through the textbook. I also recommend trying to prove all the Theorems which are left unproven in the book.

Problem 1. Exercises 5.5.6, 5.5.13, 5.5.16

Problem 2. (a) Show that if $R \subset \mathbb{R}^n$ is a rectangle and P, Q are partitions of R then P and Q have a common refinement. (hint: it can be a regular partition, as defined in 5.5.17) (b) do exercise 5.5.18.

Problem 3. Show that if $R \subset \mathbb{R}^n$ is a rectangle and P is a partition of R then

$$|R| = \sum_{R' \in P} |R'|.$$

Problem 4. Exercises 5.7.2, 5.7.5, 5.7.8, 5.7.9