# Homework IV

**1. [15 points]**
Problem 11, p. 280 of our text.

**2. [15 points]**
Problem 11, p. 299 of our text.

**3. [20 points]**
Problem 9, p. 351 of our text.

**4. [20 points]**
Show that the power set of N = {0, 1, 2, … }, $\mathbb{P}$(N), has the same cardinality as (i.e., is equipotent to) the real number interval [0,1] — that is, define a function between these sets and show that it is a bijection. Hint: consider identifying the real numbers by their binary expansions.

**5. [20 points]**
Problem 3, p. 341 of our text.