

# Math 2001 Assignment 33

Your name here

Due Wednesday, November 12

**Reading 1.** Scheinerman, §24 (pp. 167–175)

**Problem 2.** Suppose that  $A$  and  $B$  are sets and  $f$  is a function from  $A$  to  $B$ .

- (i) Write a symbolic sentence that means  $f$  is not injective.
- (ii) Write a symbolic sentence that means  $f$  is not surjective.

**Problem 3.** Scheinerman, §24, #1. For each letter, answer questions (1), (2), and (3). You do not have to answer (4).

**Problem 4.** Scheinerman, §24, #6. In each part, you should describe the image succinctly without reference to the function  $f$ .

**Problem 5.** Scheinerman, §24, #8

**Problem 6.** Scheinerman, §24, #10