Math 55: Discrete Mathematics, Fall 2008
Reading and Homework Assignment 1

Reading (from Rosen textbook):

> Lectures 1 & 2: 1.1–1.7
> Lecture 3: 2.2–2.3, pp. 158-160 of 2.4 (on cardinality)
> Lecture 4: 3.1

Homework (due Monday, 9/8):

The odd-numbered exercises in the textbook have answers at the end. Each week I will assign suggested odd-numbered exercises which you can use to check your understanding, but are not to be handed in. The second part of the assignment, consisting of even-numbered problems from the textbook and possible additional problems, is to be handed in for grading.

Odd-numbered self-checking exercises:

> Section 1.1: 1, 11, 13, 19, 23, 59; 1.2: 25, 31, 41; 1.3: 9, 13; 1.4: 23, 27, 37; 1.5: 9, 17, 23; 1.6: 9, 15; 1.7: 3, 7, 17, 21, 25; 2.1: 3, 9, 29, 35; 2.2: 35; 2.3: 7, 13, 29, 39; 2.4: 31, 35

Problems to be handed in:

> 1.1: 8(b,e,f), 12(c), 14(b,c), 20(a,g,h), Supp. Ex. 10 on p. 107, plus:
> (A) In 8(b,e,f), suppose you have the flu and miss the final. What consequences, if any, does each proposition imply about whether you pass the course?
> (B) State the converse, inverse, and contrapositive of "barking dogs don't bite."
> 1.2: 26, 30, 40
> 1.3: 10(d,e), 16, 60(a,b,c)
> 1.4: 24(d), 28(c,d,h), 36(d)
> 1.5: 24, and part (d) of 1.3 Ex. 60
> 1.6: 8, 16, 28
> 1.7: 4, 22, 24
> 2.1: 36
> 2.2: 36
> 2.3: 16, 40, plus:
> (C) Prove or find a counterexample to each statement: (i) If $f \circ g$ is one-to-one, then g is one-to-one; (ii) If $f \circ g$ is one-to-one, then f is one-to-one.
> 2.4: 32(b,c), 40

Ground rules:

You are welcome to discuss the problems and your ideas for solving them with your classmates, but you must write up your solutions on your own, without copying from solutions worked out by others or from material found on the web.

Homework is due on Mondays in discussion sections, or delivered to your section instructor by 4:00pm (the ending time of the last discussion section).