Math s21 - Day Ten (Tuesday, May 8, 2007)

9:00-10:20

A. Students present problems from homework.
B. Continue reading through section 4.3. Fill in the blank for Theorem 4.3.15 and prove it. Complete the remaining exercises. If you finish the section, do Problem 16 (abc) page 99. If you finish Problem 16, begin the homework.

10:20-10:35 Break

10:35-11:30

C. Groups present selected exercises.
D. Begin reading section 5.1, doing all exercises. (For 5.1.14, do #1, 3, 5. For 5.1.15, do #1, 4, 5.)

11:30-11:55 LaTeX

11:55-1:00 Lunch

1:00-3:00

E. Finish reading section 5.1, working through the exercises.
F. Groups present selected exercises.
G. Begin reading section 5.2. Do exercise 5.2.2 and problem 5.2.4.

New Key Ideas Today

- equivalence relation
- equivalence class
- function
- domain
- codomain
- range
- image
- one-to-one
- onto
- function composition

LaTeX Assignment for This Week

Typeset a proof of the following. (This is Theorem 5.2.3.)

"Suppose that $f : A \to B$ and $g : B \to C$ are functions. Then the following hold.

1. If f and g are both one-to-one, $g \circ f$ is one-to-one.
2. If f and g are both onto, $g \circ f$ is onto."

Homework

1. Do Problem 17 on page 100.
2. Do Problem 1 on pages 130 and 131.
3. Let $f : A \to B$ be a one-to-one function and $g : B \to C$ be an onto function. Is $g \circ f$ necessarily one-to-one? Is it necessarily onto?

Sections to discuss Wednesday

- 5.2 (finish), 5.3