Assignment #4
Due 4/26/06

Reading

- Chapters 6 (again) and 7.

Part I

A. Pages 72–73, Exercises 6.1, 6.2, 6.3 (various answers possible), 6.5, 6.6, 6.7.

B. Pages 86–88, Exercises 7.1, 7.2, 7.3, 7.4. (For the last three problems, just answer true or false—no proofs necessary.)

Part II

From now on, unless otherwise specified, all proofs should be written in paragraph form, following the guidelines on Handout #4. Despite what the textbook suggests, please do not present Venn diagrams or truth tables as proofs.

C. Pages 115–119, Problems 1(i–ii), 3, 7, 10.

D. Rewrite your proofs of the following two problems in paragraph form:
Pages 54–5, Problems 6(iii) and 14.

E. Decide which of the following statements are true for all sets A and B (no proof needed).

(a) $A \in A$.

(b) $A \subseteq A$.

(c) $A \subseteq (A \cup B)$.

(d) $(B - A) \subseteq A$.

(e) $(B - A) \subseteq B$.

(f) $\emptyset \subseteq A$.

(g) $\emptyset \in A$.

(h) $\emptyset \in \mathcal{P}(A)$.

(i) $A \in \mathcal{P}(A)$.

(j) $A \subseteq \mathcal{P}(A)$.