

**Homework Assignment #5**  
**Due: October 1, 9:30 a.m.**

For this assignment, I would like your proofs to be detailed. (Your answers should still easily fit on a page, though.)

1. Prove that for all sets  $A, B$  and  $C$ ,

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

2. Let  $f : A \rightarrow B$ . Let  $S \subset A$  and  $T \subset A$ . Prove that

$$f(S \cup T) = f(S) \cup f(T).$$