University of South Carolina
Math 574: Discrete Mathematics I
Section 001
Summer I 2012

Homework Set 8

Pre-Class Homework Due: 6-7
Post-Class Homework Due: 6-14

Set Theory

Before Class

- Familiarize yourself with the following terms: set, subset, (set) equality, union, intersection, difference, and complement.
- Read Example 6.1.2 (and the blue box titled "Element Argument" immediately before it).
- Let $A = \{1, 2, 3\}$ and $B = \{1, 2, 3, 4\}$.
  1. Is A a subset of B? Why?
  2. Is B a subset of A? Why?
  3. Write out the set $A \cup B$.
  4. Write out the set $A \cap B$.
  5. Write out the set $A \setminus B$.

After Class

- # 7, 12, 13, 24

Properties of Sets

Before Class

- Read from the beginning of the section through Example 6.2.1.
- Prove $A \subseteq A \cup B$ for all sets A and B.

After Class

- # 10, 17, 26

Disproofs, Algebraic Proofs, and Boolean Algebras

Before Class

- Nothing for today.

After Class

- # 7, 10, 32, 35