

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

Final Exam Review

- Prove a statement like $A \subseteq B$ by proving $x \in A \Rightarrow x \in B$ (i.e. the element method).
- Prove statements about all sets algebraically (using rules like DeMorgan's Law).
- Prove whether a function is one-to-one or onto.
- Solve counting problems with addition rule, multiplication rule, permutations, combinations, and inclusion-exclusion.
- Prove the Stirling number recurrence $S_{n,r} = S_{n-1,r-1} + rS_{n-1,r}$.
- Prove whether certain degree sequences exist using induction (see the fourth "After Class" problem on Homework 12).
- Prove whether two graphs are isomorphic.