



Announcements

- Final Exam: **Tuesday 4/27 10:00-11:50 AM** in this room
- Extra office hours - see webpage
- Homework 11 - contact the TA



Rules of the game...

- You will have 1 hour and 50 minutes to complete the exam
- This is a **closed** exam
 - No books
 - No notes
 - No calculators
 - No “cheat sheets”
- You are expected to memorize basic formulas
 - Product & sum rules
 - r-Permutations, r-Combinations
 - Probability, conditional probability
 - etc.
- You will be given the formula for Bayes’ rule and also the Binomial Theorem



Exam Format

- Terminology questions
- Short computations and answers
- Proofs



The exam will sample topics from Chapters 3, 4, 5, 6 and 8 of the Rosen book

Chapter 3: Integers, Division, Primes

Chapter 4: Induction and recursion

Chapter 5: Counting

Chapter 6: Discrete Probability

Chapter 8: Relations

Important topics: Chapter 3



Chapter 3: Number Theory

- The Integers and Division (div, mod, |, ...)
- Primes, GCD, ...

Important topics: Chapter 4



Chapter 4: Induction and Recursion

- Mathematical induction
- Strong induction
- Recursive definitions

Important topics: Chapter 5



Chapter 5: Counting

- Product and Sum rules
- The pigeonhole principle
- Permutations and combinations
- Binomial Coefficients

Important topics: Chapter 6



Chapter 6: Discrete probability

- Basics
 - ▢ Probability of equally likely events
 - ▢ Probability of combinations of events
- Probability theory
 - ▢ Determining probability distributions
 - ▢ Conditional probability
 - ▢ Independence
- Bayes' theorem

Important topics: Chapter 8



Chapter 8: Relations

- Binary relations
 - Relations on a set
 - Reflexive, symmetric, and transitive
 - Combining relations

- Equivalence relations

Study hard!



- Please look over your lecture notes and homeworks for examples

- Take advantage of office hours if you still have questions!