

Homework 3

Due: September 29, 2009, beginning of the class

PLEASE READ THE INSTRUCTIONS/SUGGESTIONS WRITTEN IN THE SYLLABUS!
ALL PROBLEMS ARE FROM THE 3rd EDITION OF THE TEXTBOOK.
(GHAHRAMANI: FUNDAMENTALS OF PROBABILITY)

- Hand in the following problems:
 - *Page 50-53*: 4, 10, 13, 15
 - *Page 63-66*: 7, 13, 19, 30
- Practice problems (you do not need to hand these in!):
 - *Pages 44-47*: 23, 25, 26, 29
 - *Pages 50-53*: 16, 18, 23
 - *Page 63-66*: 2, 3, 4, 20, 27

You may also work on any other problem in Chapter 2.

- Bonus problem:
Evaluate the following sum:

$$\binom{n}{0} + \frac{1}{2}\binom{n}{1} + \frac{1}{3}\binom{n}{2} + \cdots + \frac{1}{n+1}\binom{n}{n}.$$

DISCLAIMER: It is easy to find the solutions to (some of) these questions. (E.g. the internet, your fellow classmates ...) However, do NOT consult any of these solutions when working on this assignment or you will learn nothing from it and your chance of passing the course will be greatly diminished. If it becomes apparent to the grader that your solution is copied from existing solutions, you will be assigned a grade of zero for lack of originality.