

Homework 7

Due: October 27, 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:
 - I. *Page 211-212:* 4, 7, 11, 15
 - II. The manufacturers of a certain type of cookie claim that each cookie will contain at least one raisin with 99% probability. How many raisins should the cookie factory put in its cookies on average? (State your assumptions.)
Hint: Read Problem 8 on page 212.
 - III. *Page 224-226:* 3, 5, 11, 16, 20
- Practice problems (you do not need to hand these in!):
 - *Page 211-212:* 1, 2, 5, 8, 12, 14
 - *Page 224-226:* 4, 6, 7, 8, 12, 17

You may also work on any other problem in Sections 5.2-5.3.

- Bonus problem:

In a town there are on average 2.4 children in a family and a randomly chosen child has on average 1.55 siblings. Determine the variance of the number of children in a randomly chosen family.

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.