

Introduction to Probability, Fall 2013

Math 30530 Section 01

Homework 3 — due in class Friday, September 20

General information

At the top of the first page, write your name, the course number and the assignment number. If you use more than one page, you should **staple all your pages together**. The grader reserves the right to leave ungraded any assignment that is disorganized, untidy or incoherent.

Reading

- Sections 1.4, 1.5 and 1.6 (but ignore for now the subsection of 1.5, beginning half way down page 36, on Conditional Independence)

Problems

1. Chapter 1, Problem 30
2. Chapter 1, Problem 31
3. Chapter 1, Problem 33
4. Chapter 1, Problem 34
5. Chapter 1, Problem 35
6. Chapter 1, Problem 49
7. Chapter 1, Problem 52
8. Chapter 1, Problem 53
9. Chapter 1, Problem 54
10. Chapter 1, Problem 56
11. Chapter 1, Problem 57
12. Chapter 1, Problem 58
13. Chapter 1, Problem 60

14. Show that $\sum_{k=0}^n \binom{n}{k}^2 = \binom{2n}{n}$.
15. Calculate the probability that when you roll six ordinary dice, the total number of different numbers that come up is exactly four.