

MATH 636, Fall 2014

HOMEWORK 4

To be prepared for presentation on Thursday, October 9.

Background reading: *Combinatorics: A Guided Tour*, Sections 2.1–2.4 and the notes on combinatorial proofs.

If you wish to present one of these questions in class, claim it upon arrival. (If you have already presented, please let others present this time.)

Recall that you may submit solutions to these problems for grading, as described on the syllabus.

- 4-1. Understand and explain to the class the proof of Theorem 2.1.2. The proof relies on the argument given in Combinatorial Proof #2 on page 55 and the solution to Question 62.
- 4-2. Understand and explain to the class the proof of Theorem 2.3.2 on page 71, as well as the solution to Question 79 (also page 71).
- 4-3. Exercise 2.1.6
- 4-4. Exercise 2.2.7
- 4-5. Exercises 2.3.8 and 2.3.9
- 4-6. Exercise 2.4.1