MATH 636, Fall 2015
Homework 2
To be prepared for presentation on Thursday, September 3.

Background reading: Combinatorics: A Guided Tour, Sections 1.1 and 1.2.

Follow the posted homework guidelines when completing this assignment.

In particular, remember that you must **fully justify** any assertions you make. (For example, you must **prove** that your answer to 2-1(b) below is correct.)

Only consult with your classmates or professor to discuss the problem set.

We will discuss solutions to these questions in class.

2-1. (a) 1.1.5

  (b) Consider all ways to choose fifteen coins and the amount of money each way represents. (For example, 15 dimes equals \$1.50.) What is the smallest amount of money that occurs in at least two different ways?

2-2. (a) How many subsets of [30] contain no prime numbers?

  (b) How many subsets of [30] have size 15 and no numbers larger than 20?

  (c) How many multisubsets of [30] of size 13 have smallest element 6 and largest element 17?

2-3. 1.2.9