MATH 636, Fall 2015
Homework 7
To be prepared for presentation on Tuesday, October 6.

Background reading: Combinatorics: A Guided Tour, Sections 2.3 and 2.4.

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

We will discuss solutions to these questions in class.

7-1. Figure out the answer to each of the following parts. Prove at least one of them using a bijection.

(a) How many set partitions of [n] into two blocks are there? (Definition of block on p. 35)

(b) How many set partitions of [n] into (n-1) blocks are there?

(c) How many set partitions of [n] into (n-2) blocks are there?

7-2. Exercise 3.1.4(a)

Hint: Define A_1 to be the set of 13-card hands that have no spades. (Or call it $A_\spadesuit$!)