DUE: Tuesday, September 28

1. (2 points) Do Exercise 4.1.14 from our text.

2. (2 points) You are drawing $n$ cards from a playing deck of 52 cards. What is the minimum value of $n$ to assure that you draw:
   (a) a pair
   (b) three of a kind

3. (1 point) Do Exercise 4.1.44 from our text.

4. (4 points) Do Exercise 4.2.4 from our text.

5. (4 points) Do Exercise 4.2.28 from our text.

6. (6 points) (a) In how many ways can the 6 capital cities of New England be visited?
   (b) In how many ways can the 6 capital cities of New England be visited if we insist that Providence should always be visited just after Boston?

7. (12 points) We want to pick a five person committee from a group of five men and seven women. In how many ways can this be done if:
   (a) the committee must contain at least three men and at least two women,
   (b) the committee must contain at least one man,
   (c) the committee must contain at most one man.