Homework 28, due November 11

(1) In a family of six, what is the probability that no two people have birthdays in the same month? Assume that all months have equal probabilities.

(2) (Page 242, problem 1)
   (a) If there are 30 people in a room, what is the probability that at least two have the same birthday? Compare this to the approximation in formula (8.1).
   (b) How many people should there be in a room in order to have a 99 percent chance that at least two have the same birthday?
   (c) How many people should there be in a room in order to have a 100 percent chance that at least two have the same birthday?

(3) What is the probability that there are two students in a class of 200 with university ID numbers that have the same last four digits?