Statistics 7 Homework assignment for Mon, Feb 11
Due Wed, Feb 20th

1. Suppose a defense attorney is trying to convince the jury that his client is innocent, in spite of the fact that his client's car was seen leaving the scene of the crime. Here are two possible ways he might present statements to the jury:
   Statement A: There are other people who have keys to my client's car, and it could have been one of them driving it.
   Statement B: There are other people who have keys to my client's car, including his ex-wife who is quite vengeful and would love to see him convicted of a crime. It could have been her driving the car.
   a. Explain why the second statement cannot have a higher probability of being true than the first statement.
   b. Based on the material in Monday's lecture, to which statement are members of the jury likely to assign higher personal probabilities? Explain.
   c. What name have psychologists given to the heuristic leading to this mistake, and to the mistake itself?

2. Comment on the following unusual (and true) lottery event. Include a probability assessment in your discussion: To play the Maryland Pick 4 lottery, players choose four numbers from the digits 0 to 9. The game is played twice every day, at midday and in the evening. In 1999, holiday players who decided to repeat previous winning numbers got lucky in two separate incidents. At midday on December 24, the winning numbers were 7535, exactly the same as the previous evening. And on New Year's Eve, the evening draw produced the numbers 9521 – exactly the same as the previous evening.

3. Answer Thought Question 7.8 on page 250. (If you have the 3rd edition it's on page 268.)

4. Do Exercise 7.78 (page 258).