

## Statistics 8 Homework assignment for Wed, Oct 27

Due Wed, Nov 3rd

1. Suppose a defense attorney is trying to convince the jury that his client's wallet, found at the scene of the crime, was actually planted there by his client's gardener. Here are two possible ways he might present this to the jury:  
*Statement A:* The gardener dropped the wallet when no one was looking.  
*Statement B:* The gardener hid the wallet in his sock and when no one was looking he quickly reached down and pulled off his sock, allowing the wallet to drop to the ground.
  - a. Explain why the second statement cannot have a higher probability of being true than the first statement.
  - b. Based on the material in Wednesday's lecture, to which statement are members of the jury likely to assign higher personal probabilities? Explain.
2. Comment on the following unusual lottery events, including a probability assessment:
  - a. On September 11, 2002, the first anniversary of the 9/11 attack on the World Trade Center, the winning number for the New York State lottery was 911.
  - b. 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. Do Problem 7.68 (page 274)
4. Do Problem 7.73 (page 275)