

He who has heard the same thing told by 12,000 eye-witnesses has only 12,000 probabilities, which are equal to one strong probability, which is far from certain.

—Voltaire (1694–1778)

Thursday, October 26: Read sections 6.7 and 6.8.

1. Compare the solution to the TB problem in section 6.7 with the solution in 6.6. Does one seem easier than the other to you?
2. In example 2, be able to compute $P(B_i|A)$ for $i = 1, 2, \dots, 7$.
3. Why does Bayes' theorem work (try to explain it in a 2-stage, 2 branches at each stage, experiment).
4. In what types of situations might you want to use a simulation instead of performing the actual experiment?
5. Why is the Surgery recovery room simulation useful, as opposed to just figuring out the average number of hours per patient?

Exercises: 6.7: 2, 3, 7, 16, 20. 6.8: 3, 5, 8.

Tuesday, October 31: Midterm Exam today on Chapters 5 and 6. **Bring a scantron!**

Thursday, November 2: Read sections 7.1 and 7.2.

1. What is a distribution?
2. What is a random variable?
3. What is a histogram?
4. From a bag with 7 green balls and 3 red balls, you draw a random 4 balls from the bag, and record the number of green balls. Draw the probability histogram for this.
5. You have a coin with $P(H) = .6$. Flip it 8 times. What is $P(6\text{heads})$?
6. You draw a number from 1 to 100 at random. What is the probability that it is a multiple of 3?
7. Repeat the above experiment 10 times. What is the probability that 4 of the numbers you get are multiples of 3?

Exercises: 7.1: 4, 10, 12-13, 15-17, 20, 25-26. 7.2: 2, 12, 14, 16, 21-22, 29.