Chapter Objectives: Understand the notion of probability as a number. Learn the laws of probability (in the finite sample space setting). Understand the basic facts of normal distributions, including the 68, 95, 99.7% rule. Learn the meaning of and how to calculate expected value in a finite sample space setting.

- Assignment already made:

  **Homework Problems:** Chapter 7, #37, 38.
  **Reading:** Pages 295-304.
  **Reading Homework:** Chapter 8, #1-3.

**Day 1:**

1. Go over homework.
2. Review some concepts from Chapter 7, being sure that students understand the difference between a number and a percent.
3. Discuss the difference between a parameter and a statistic by going over the reading homework.
4. Discuss confidence intervals. Remember that this was discussed a little in chapter 5, but the students have more tools now to understand what confidence intervals are and where they come from. Point out that since polls usually report results with 95% confidence, that 1 out of 20 polls will be off by more than the stated interval, but only 0.3% will be off by more than 1.5 times their confidence interval, and virtually none should be off by twice their confidence interval, unless there’s a flaw in the poll (which may or may not be due to deliberate bias).
5. Assignment:
   **Homework Problems:** Chapter 8, #5, 6, 7, 9, 10, 11.
   **Reading:** Pages 304-311.
   **Reading Homework:** Chapter 8, #20.

**Day 2:**

1. Go over homework. This may take awhile.
2. Discuss how one can estimate population means from sample means, being sure to explain the information in the box on page 305. Do #22 as an example.
3. Have the students work in groups of 3 on worksheet M8b. Be sure to point out that problem 3 is different from the other two, but let them figure out how to do it.
4. Assignment:
   **Homework Problems:** Chapter 8, #23, 25, 27, and finish M8b.
   **Reading:** Pages 311-313.
   **Reading Homework:** Write 2 or 3 sentences summarizing the examples in the reading. Which hospital is safer?

**Day 3:**

1. Go over the homework from the textbook.
2. Put students back into their groups for about 5 minutes to compare answers from finishing up worksheet M8b. Have someone put the answers on the board and pause for questions.
3. Go over the “perils of data analysis” by using sheets M8d1, M8d2, and M8d3. Have the students work in groups of 3. In each group have one student with each of the sheets try to decide whether or not there was discrimination. Then have them jointly decide. Allow time for class discussion - they won’t all believe that two rights can add up to a wrong at first! (You’ll get copies of this worksheet in your box as usual, but you’ll get a little more than \( \frac{1}{3} \) the number you usually do. They’ll be stapled together so that each packet contains one copy of each of the three worksheets. Just give one packet to each group.)
4. Assignment:
   **Homework Problems:** Chapter 8, #35, 39, 40.
   **Reading:**
   **Reading Homework:**