Part IV
Probability

Chapter 13: What Are the Chances?

This is an important and fundamental chapter containing several important definitions and formulas. Read and reread very carefully the top of page 223, the bottom of page 227, and sections 13.3 and 13.4.

Section 13.1: Mastery of the ideas in the boxes on pages 222, 223, and 225 is important.

Suggested problems for study: A: pages 225–226: 1 and 2; and extra practice 3 and 5.

Section 13.2: Think about part (a) in Example 2. Convince yourself that the correct answer is 1/52 and not 1/51.

We will use the notation in the technical notes on the bottom of page 227.

A more detailed introduction to a deck of cards is available at "cards" in the course guide.

Suggested problems for study: B: page 227: (all) 1–4

Section 13.3: Important Rule: box on page 229

Suggested problems for study: C: pages 229–230: 1–5, and 7; extra practice: 6

Section 13.4: Important boxes: pages 230, 231, and 232. It is essential that you develop clear, intuitive knowledge of what it means for two things to be independent. This understanding should go beyond the definition: an easy familiarity. A useful approach that is not used in the text is to ask yourself: "in this application, are conditional probabilities required or unneccessary?"

Suggested problems for study: D: page 232: 1–5

Section 13.5: (optional reading)

Chapter Summary: page 236: points 1–9 are important, 10 also useful.

Review Exercises

Homework (pages 234 and 235): 4, 6, 8, 9

Comments on HW:

Problem 1 (b) has a surprising answer, but I will not mark it wrong if you approach it in the usual way.

For problem 4, assume a standard 52-card deck and that the draws are made without replacement.

For problem 6, since they are both placed face down together, the draws are made without replacement.

Problem 8 is a key problem for this chapter. It uses the logic of the opposite thing (the negation). Before proceeding, ask yourself this important question:

"Which of the other two results is the negation of the result in 8 (a)?"

Problem 9 is important and very similar to problem 8, with slightly different wording. Again ask yourself the important question: "Which of the other two results is the negation of the result in 9 (a)?"

Also look at probs. 1, 10, and 12 on pages 234–236, and (not as important) prob. 2 on pages 234–235.

Useful problems: ch13-14practice, found under Chapter Problems.