Part VII Tests of Significance

Chapter 26: Tests of Significance

This chapter explains how to set up a test of significance. Tests of significance constitute the last topic of the course, and other examples of them will be presented in later chapters. Student's t-test, used for small samples, will be presented in section 26.6.

Section 26.1: Just read.

Suggested problems for study: A: pages 476–477: 1, 4, 5; and, for extra practice, page 477: 2 and 3.

Section 26.2: The box on page 477 is very important.

Suggested problems for study: B: page 478: (all) 1–5.

Section 26.3: All of the boxes on pages 479, 480, and 481 are important.

Suggested problems for study: C: page 481: 1–5; and (for extra practice) page 482: 7 and 8.

Section 26.4: A summary of the chapter so far. Also contains definitions of statistically significant and highly significant.

Suggested problems for study: D: pages 482 and 483: 1–4; also (not so important) page 483: 5.

Section 26.5: Presents tests of significance involving classifying and counting. They could alternatively be done using the observed and expected percentages, but the text only uses the counting method, with the observed statistic a sum from a 0-1 box. The short-cut method will be used to get the SD, and the continuity correction of $\pm 1/2$ will be needed for the endpoint(s) of the interval.

Suggested problems for study: E: pages 487 and 488: 6, 7, 8, 11 (especially problems 7 and 8); and (less important) 1–5, 9, and 10.

Section 26.6: An important section for small samples. Somewhat complicated. A new table is introduced. This section will not appear on Test 4 or the final examination.

Suggested problems for study: F: pages 494 and 495: 1-4, 6, and 7.

Chapter Summary: page 500: points 1–5 are important.

Review Exercises

Homework (pages 494 and 495): 1, 2, 3, 5 (Problem 5 not assigned Fall 2017)

Comments on HW:

Problems 2 and 3 use the methods of section 26.5. State the null and alternative hypotheses; set up a 0-1 box for the null hypothesis; find the SD by the short-cut; find the expected value and standard error of the sum; adjust the endpoint of the interval by either plus or minus 1/2 (as required); find the standard units for the statistic; using the normal curve, find P; and (finally) make the correct decision.

For problem 5: Be careful in parts (a) and (b). Don't mix up the number in the box for the null hypothesis with the observed statistic. Think it out carefully. Then use the methods of sections 26.1 through 26.4.

Look at problems 6, 9, 11 on pages 496–498; and (extra practice) problems 4, 7, 12 on pages 496–499.