Finishing Chapter 18

1. Start thinking more about realistic conditions.

2. Deal with data coming directly from matched pairs experiments.

3. Use software (Minitab and CrunchIt).

Activities:

- **Data from matched pairs comparisons**:   Read Example 18.4.   Do Exercise 18.11.

    (We actually already seen problems with data from matched pairs comparisons: Exercises 14.26, 15.39, 15.41, 16.34.   In those problems, we didn't have the "raw data." The statistician had already computed the differences for us. Now we are ready to start dealing with the data as collected.)

- **Language**: Introduction. Page 438.   We finally give the standard deviation of the sampling distribution of $\overline{X}$ its own name.   Call it the "standard error."   We didn't give it a name until now, because now we're ready to estimate it, which is much more realistic than assuming we know it, so we use s instead of σ and we have the standard error of $\overline{X}$ is $\dfrac{s}{\sqrt{n}}$.

    Do Exercise 18.1.

- **Conditions.** Introduction, pages 437 and 438. AND   "Robustness" page 452.
    Do Exercise 18.13.

- **Software**: You must learn to use Minitab for calculations in this chapter as well as learning to do the calculations by hand. (See our ACC Data and Notes pages, Chapter 18, for discussion.)

    For one-sample t-tests, both Minitab and CrunchIt can use either full datasets or summarized data (just the sample mean and standard deviation and sample size.)

    For paired t-tests, both use only full datasets.   Minitab will give you the mean and standard deviation of the differences so that you can also do the calculations by hand.   CrunchIt does not give you the standard deviation.

- **Software**: You can use Minitab to investigate what graphs of samples from normal distributions can look like. (See our ACC Data and Notes pages, Chapter 18, for discussion.)

Quiz 10: Due at the beginning of class Wed. April 3.

18.38, 18.52(all four steps), 19.2, 19.4, 19.36