## Chapter 9. Notes and elaborations for Math 1125-Introductory Statistics

## Assignment:

I'm only teaching two sections of chapter 9. They are both two-sample hypothesis test. In fact, they behave in almost the same way that the analogous single-sample tests work. Although you may want to peruse more than sections 9.1 and 9.4, I won't ask for anything from any of the other sections.

You may disregard anything with confidence intervals in these sections.

9.1: 5, 7, 9. 9.4: 1, 2, 11 - 13 odd.

## Some additional notes are below.

If you understood chapter 8, this one is a breeze. Instead of testing if a population equals some number vs. one of the alternatives, you now test if one population mean or proportion is bigger (or smaller or not equal to) than the other. For example:

Chapter 8 problem: Test if Ford's cars get better than 20 miles per gallon.

Chapter 9 problem: Test if Ford's cars get better gas milage than Honda's cars.

There is one correction for the book. In section 9.1 the book claims that both populations must have known variances. This is not really true. If both samples are large enough, you may substitute the sample SD for the population SD in the formula for the test statistic. We'll say that if both samples have at least 30 data points, that this is sufficient.

Oh yeah, and as always, remember that equality always goes in the null hypothesis.

I think the couple of examples in addition to your knowledge of chapter 8 will get you through.