Math 1600, Section 11, Fall 2016 – Statistics
Final Review Sheet

This is only intended as a guide to help you focus your studying for the final exam.

See review sheets for
- Quiz 1
- Midterm 1
- Quiz 2
- Midterm 2

Tests and Assignments
- Quiz 1
- Midterm 1
- Quiz 2
- Lab 9
- Midterm 2
- Lab 12
- Homework 13

In addition, other labs and homework assignment will provide good review material.

Some problems from the book: 10.4, 10.10, 10.11, 10.37

1. A random sample of 2000 people from the labor force or a large city are interviewed, and 175 of them are found to be unemployed.
     a. Estimate the rate of unemployment based on the data.
     b. Establish a 98% error margin for your estimate.

2. While estimating a population proportion using a large sample, it is reported that the point estimate of p is $\hat{p}$ = .32 and its 90% error margin is .08. Using this information find:
     a. A 95% confidence interval for p,
     b. The sample size n that was used in the study.

3. From telephone interviews with 980 adults, it was found that 78% of those persons supported tougher legislation for antipollution measures. Does this poll substantiate the conjecture that more than 75% of the adult population is in favor of tougher legislation for antipollution measures? (Note that you cannot use the results of the survey until step d.)
     a. Formulate the hypotheses.
     b. State the test statistic and the form of the rejection region.
     c. With α =.03 determine the rejection region.
     d. Calculate the test statistic from the data.
     e. Draw your conclusion (this should include a computation of the P-value). Write the final conclusion as a sentence that answers the question in the problem statement..