

Math 1600, Section 5, Fall 2015 – 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

Tests and Assignments

- Quiz 1
- Midterm 1
- Quiz 2
- Lab 9
- Midterm 2
- Lab 11
- 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  $\alpha = .03$  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..