

Exam #4 Objectives

For Exam #4, a well-prepared student should be able to

- articulate how confidence intervals and significance tests work as inference methods
- identify variable, population(s), and parameter(s) of interest
- identify relevant sample(s) and statistic(s)
- distinguish between standard deviation and standard error for a sampling distribution
- distinguish between a z statistic and a t statistic
- understand the basic characteristics of t -distributions
- understand the general idea of robustness
- check conditions under which a given inference method applies
- carry out an appropriate method for computing a confidence interval for any of the following:
 - mean for one population
 - difference of means for two population
 - proportion for one population
 - difference of proportions for two populations
- carry out an appropriate method for a significance test involving any of the following:
 - mean for one population
 - difference of means for two populations
 - proportion for one population
 - difference of proportions for two populations
- used a “matched pairs” design when relevant
- determine a sample size to produce a given margin of error at a given confidence level for a proportion
- use inference results to state a conclusion in real-world terms
- identify sources of potential bias in a study design