

Math 122
Introduction to Statistics
Example Claims

One Proportion

- Example: More than one quarter of students on campus attend Chapel at least once a week.
- Web Calculator: onepropz, TI: 1-PropZTest

Two Proportions

- The proportion of females on campus who attend chapel at least twice each week is larger than the proportion of males who attend chapel at least twice per week.
- Web Calculator: twopropz, TI: 2-PropZTest

One Mean

- Example: Students on campus on average attend chapel at least two times per week.
- Web Calculator: ttest, TI: T-Test

Two Means (Independent Means)

- Example: Males on campus on average spend more time per week in the weight room than females.
- Web Calculator: twomeant, TI: 2-SampTTest

Matched Pairs (Dependent Means)

- Example: The fall track program improves athletes' 30m times.
- Web Calculator: matchedpairs, TI: Store one data set in L1 and one in L2. Store the difference in L3. Use T-Test on L3.

Goodness of Fit

- Example: About one half of our students are education majors. About one quarter are business majors, and about one quarter are something else.
- Web Calculator: chi2GOF, TI: χ^2 -GOF.

Contingency Table

- Example: Whether or not a student attends chapel regularly is independent of that student's major.
- Web Calculator: contingency, TI: Find expected and observed values for contingency table. Do Goodness of Fit test with $DF = (\text{number of rows} - 1) \times (\text{number of cols} - 1)$.

Correlation

- Example: There is a linear correlation between the number of hours slept the night before an exam and the grade a student receives on the exam.
- Web Calculator: correlation, TI: LinRegTTest

Anova

- Example: Students in theology, music, and mathematics have the same average GPA.
- Web Calculator: anova TI: ANOVA