

Draft is due Nov. 26. Final Project Dec. 2.

Overview: You will do a hypothesis test for two independent means. Test the claim that the average distance to SRJC is the same for both faculty and students. Use the class data collected for Project Part I for the faculty, and your groups data for the students.

Individual Part: Each group member will hand write the graph of the sampling distribution for the hypothesis test. In addition, each member must hand write the final conclusions and the meanings of p-value for the test in nontechnical terms. A sheet from each group member should be stapled to the back of the group's final project.

Format: The report should include these headings in this order for **both** your mean data and your proportion data. It should be turned in stapled in the upper, left hand corner (a folder is not required nor desired.)

Means comparison

Perform a Hypothesis Test the above claim about population mean distance to SRJC.

- Project Part III, your name(s), Math 15, and my name (Jones).
- **Data summary** should be summary statistics copied from StatCrunch. Formatted so it is easy to read.
- Check Assumptions and **requirements** for a hypothesis test using Project Part I. Does data appear to come from a normal population? Can we still do a hypothesis test.
- **Hypothesis test** for the difference between two means.
 - 1) State the claim, null and alternate hypothesis.
 - 2) Graph and shade the critical region on a hand drawn t-distribution.
 - 3) Find the critical value. Label it on your graph.
 - 4) Use StatCrunch to find the point estimate of the difference between the samples means (independent 9.2). Copy and paste the hypothesis test output into your project. Label the test statistic and point estimate on your hand drawn graph of the t-distribution.
 - 5) Give initial conclusion.
- Discussion and **final conclusion** about population means. This should be included in the typed portion of the project. (However, each member must hand write this part as well.)
 - 1) Give justification of conclusion using the P-value and meaning of p-value.
 - 2) Graph the test statistic and critical value and explain their meanings. Explain how they justify your conclusion.
 - 3) Make a **confidence interval** for the difference between your population means. Choose your confidence level so the Critical values will be the same as those used for your hypothesis test.
 - 4) Explain how the confidence interval justifies your conclusion.
- **Appendix** giving your mean data collection lists from each group member.

Grading will be based on how well you answer every part of the questions in complete sentences that demonstrate an exemplary understanding of the concepts with graphs neatly and clearly labeled.

_____	/5	Format , presentation, correct spacing, and completeness apparent in project.
_____	/5	Question , claim, description of population correctly stated.
_____	/5	Assumptions, justifications, requirements for hypothesis test justified.
_____	/10	Group part of hypothesis tests
_____	/10	Confidence interval and meaning.
_____	/30	Each member submits a hand drawn Graph for both tests, Gives the Meaning of p-value , and writes conclusion sentences for p-value, critical value, and confidence interval. Understanding of inference in Conclusions is correct. (These points are assigned individually)
_____	/65	Total