Notes for mth542

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Section testing of hypothesis for a population mean. Type 1 Error: Rejecting a true null hypothesis when we should not reject. Type 2 Error: Failing to reject the null hypothesis when we should reject.

If p-value is less than alpha, we reject the null hypothesis since our p-value tells us the likelihood of the observation happening given that the null hypothesis is true.

The further that H_a is from the H_0, the smaller the probability of type 2 error as the two distributions are further apart.
Increase alpha to reduce probability of type 2 error

Section testing hypothesis for a population proportion. For a proportion of a population the idea is similar but execution differs slightly.

If H_0 were true, that if if p = 0.30, then the chance that at least 34 percent out of a random sample of 500 would watch channel 7 is only 0.0256. Therefore the data provides strong evidence againt H_0. There is strong evidence that the population

Section Relationship between two categorical data. Two categorical variables, want to see if they are associated in any way. We do not use the word "cause" unless we hace a very thorough study.