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Video 25 Tests of Significance

1. In the 1970s, statistician Ron Thisted did a statistical analysis of Shakespeare's vocabulary. Based on his analysis he created a computer program. What could his program tell you about a Shakespearean poem? **His program could tell you the number of unique words on Shakespeare's vocabulary and thus can help authenticate if a work was written by Shakespeare or not.**
2. In analyzing a poem to see whether or not it was authored by Shakespeare, Thisted set up a null hypothesis and an alternative hypothesis. State those hypotheses in words. **Null hypothesis – Shakespeare wrote the poem, Alternative hypothesis – someone else besides Shakespeare wrote the poem.**
3. What was the approximate distribution of the number of unique words per poem in Shakespeare? **7 unique words**
4. Thisted observed 10 unique words in the newly discovered poem. Was that sufficient evidence to conclude that Shakespeare did not write the poem? **Because he observed 10 unique words, which is 3 above 7, and it was only one standard deviation away, you would only see 10 unique words 25% of the time, and thus it was not enough to conclude Shakespeare did not write the poem.**
5. Which is better evidence against the null hypothesis, a significant p-value or a small p-value? **Small p values give evidence against the null hypothesis.**