Test 4 Study Guide

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Section 4053
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Confidence Intervals

Step 1) Calculate point estimate

Step 2) Verify conditions

Step 3) Sketch and Calculate critical value

Step 4) Calculate lower and upper bound using formula

Step 5) Interpret result

"We are ____% confident the population _____ is between _____ and _____."

Hypothesis Tests

Step 0) Verify conditions

Step 1) State hypotheses (H_0 and H_1) and determine type of alternative hypothesis (right-tailed, left-tailed, two-tailed)

Step 2) Select α

Classical

Step 3)
- Compute test statistic
- Sketch graph and use Table to determine critical values

Step 4)
- Compare test statistic to critical value(s)
- If test statistic lies in critical region, reject null hypothesis.

P-value

Step 3)
- Compute test statistic
- Sketch graph and use Table to determine the P-value

Step 4)
- Compare test statistic to P-value
- If P-value $< \alpha$, reject null hypothesis.

Step 5) State conclusion.
"There (is/is not) sufficient evidence to conclude that [alternative hypothesis]."

10.1

Type I Error
- "convict an innocent person"
- reject H_0 when H_0 is true

Type II Error
- "let a guilty person go free"
- do not reject H_0 when H_1 is true

α = P(Type I Error) } inversely proportional
β = P(Type II Error) }

Calculator

9.1 – A: 1-propZInt

9.2 – 8: TInterval

9.3 – N/A

10.2 – 5: 1-PropZTest

10.3 – 2: T-Test

10.4 – N/A