

Chapter 15: Inference for Regression



Key Vocabulary:

- regression
- true regression line
- mean response
- true slope
- true intercept
- standard error
- t statistic

Calculator Skills:



- RESID
- 1-Var Stats
- LinRegTTest

1. Give the equation for the *true regression line*, and state what each component of the equation represents.

2. Summarize the conditions for regression inference:
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3. Give the equation for the *standard error about the least-squares line*:

4. How many degrees of freedom are there in regression inference?
5. State the form of a confidence interval for the regression slope. Clearly state what each component of the equation represents.
6. What is the most common hypothesis about the slope, when testing for a linear relationship?
7. Give the equation for the *t*-statistic used to carry out a significance test for regression slope.
8. State and illustrate with diagrams, each of the possible alternative hypotheses for a significance test for regression slope