

Final Exam Study Topics

Types of data: categorical vs. quantitative

Graphs:

Histograms –

1. Skew-ness
2. Read amount in a particular section
3. How do outliers affect the 5 numbers
4. Which numbers measure central tendency
5. Which numbers measure variance

Boxplots – Read range, quartiles, median

Correlations and associations

1. Positive – what does this mean about the association?
2. Negative - what does this mean about the association?
3. Determine a response value from the regression equation
4. Residual point

Probability – calculate

1. From table
2. From description

Graphing correctly the explanatory & response variables

Ways to gather data:

1. Observation
2. Experiment

Things that affect the results of your study:

Control groups, SRS, placebo, convenience, non-response, etc.

Identify:

1. Population - parameter
2. Sample – statistic

Find:

1. Z-statistic (Table A)
 - a. Probability
 - b. P-value
2. T-statistic (Table C)
 - a. Probability
 - b. Margin of error
 - c. P-value
3. Confidence intervals
4. Sample size for given margin of error

What procedure applies?

1. T-test for one sample test
2. Z- test for one sample test
3. Matched pairs t-test
4. Two-sample t-test

Hypotheses

1. State the null and alternative for one-sample tests and for two-sample tests
2. How to determine if you should reject the null hypothesis
3. Types I and II errors