

Review

Robb T.
Koether

Chapters 1 - 4

Chapters 5 - 8

Chapters 9 -
11

Chapter 13

Chapter 14

Review

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Tue, Apr 29, 2008

Outline

Review

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Chapters 1 - 4

Chapters 5 - 8

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Chapter 13

Chapter 14

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- 2 Chapters 5 - 8
- 3 Chapters 9 - 11
- 4 Chapter 13
- 5 Chapter 14

Chapter 1

Review

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Chapter 14

- Introduction to hypothesis testing.
 - Bag A vs. Bag B , or some similar situation.
 - Direction of extreme
 - Type I error - α
 - Type II error - β
 - p -value

Chapter 2

Review

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Chapter 14

- Random Sampling
 - Population
 - Sample
 - Simple random sample - `randInt()`
 - Stratified sample - heterogeneous groups
 - Cluster sample - homogeneous groups
 - Systematic sampling

Chapter 3

Review

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Chapter 14

- Observational Studies and Experiments
 - Variable
 - Explanatory variable
 - Response variable
 - Confounding variable
 - Observational study
 - Experimental study

Chapter 4

Review

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- Graphical Displays of Qualitative Data
 - Pie chart
 - Bar graph
- Graphical Displays of Quantitative Data
 - Frequency plot
 - Stem-and-leaf display
 - Histogram

Chapter 5

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- Computation of Basic Statistics.
 - Statistic vs. parameter
 - Measures of Center
 - Median
 - Mean
 - Measures of Spread
 - Standard deviation
 - Variance
 - Quartiles
 - Five-number summary
 - Boxplots

Chapters 6 and 7

Review

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Chapter 14

- Probability Distributions
 - Normal
 - Uniform
 - Triangular
 - Probability
 - Percentile

Chapter 8

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- Sampling Distributions of \bar{x} and \hat{p}
 - For small samples, find sampling distributions for \bar{x} and \hat{p} by hand.
 - For small samples, find sampling distributions for \bar{x} and \hat{p} by using the Central Limit Theorem.
 - Central Limit Theorem for Means
 - Central Limit Theorem for Proportions

Chapters 9

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- Hypothesis Tests and Confidence Intervals for Proportions
 - The seven steps of hypothesis testing
 - One-sample test for p
 - One-sample confidence interval for p

Chapters 10

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- Hypothesis Tests and Confidence Intervals for Means
 - The seven steps of hypothesis testing
 - One-sample test for μ
 - One-sample confidence interval for μ
 - Standard normal vs. t distributions

Chapters 11

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Chapter 14

- Hypothesis Tests and Confidence Intervals for Differences between Means and Proportions
 - Independent sample vs. paired sample
 - The seven steps of hypothesis testing
 - Two-sample test for $\mu_1 - \mu_2$
 - Two-sample confidence interval for $\mu_1 - \mu_2$
 - Two-sample test for $p_1 - p_2$
 - Two-sample confidence interval for $p_1 - p_2$
 - Standard normal vs. t distributions

Chapter 13

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- Linear Regression
 - Bivariate quantitative data
 - Scatterplot
 - Equation of the regression line
 - Prediction, interpolation, extrapolation
 - Correlation coefficient
 - Sums of squares - SST, SSR, SSE
 - Strength vs. significance of the relationship
 - Test of significance of β and ρ

Chapter 14

Review

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- Analysis of Count Data
 - Expected counts
 - Chi-square distribution
 - Goodness of fit test
 - Tests of independence or homogeneity

The TI-83

Review

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- **Statistical Calculations**
- **STAT > CALC**
 - 1-Var Stats
 - 2-Var Stats
 - LinReg(a+bx)

The TI-83

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- **Statistical Tests**
- `STAT > TEST`
 - Z-Test
 - T-Test
 - 2-SampZTest
 - 2-SampTTest
 - 1-PropZTest
 - 2-PropZTest
 - χ^2 -Test
 - LinRegTTest

The TI-83

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- Confidence Intervals
- STAT > TEST
 - ZInterval
 - TInterval
 - 2-SampZInt
 - 2-SampTInt
 - 1-PropZInt
 - 2-PropZInt