

TABLE OF CONTENTS

Licensing

1: Introduction to Statistical Studies

- 1.1: Why It Matters- Types of Statistical Studies and Producing Data
- 1.2: Introduction to Types of Statistical Studies
- 1.3: Types of Statistical Studies (1 of 4)
- 1.4: Types of Statistical Studies (2 of 4)
- 1.5: Types of Statistical Studies (3 of 4)
- 1.6: Types of Statistical Studies (4 of 4)
- 1.7: Introduction to Sampling
- 1.8: Sampling (1 of 2)
- 1.9: Sampling (2 of 2)
- 1.10: Methods of Sampling
- 1.11: Introduction to Conducting Experiments
- 1.12: Conducting Experiments (1 of 2)
- 1.13: Conducting Experiments (2 of 2)
- 1.14: Putting It Together- Types of Statistical Studies and Producing Data

2: Descriptive Statistics

- 2.1: Organizing and Graphing Qualitative Data
- 2.2: Organizing and Graphing Quantitative Data
- 2.3: Stem-and-Leaf Displays
- 2.4: Measures of Central Tendency- Mean, Median and Mode
- 2.5: Measures of Position- Percentiles and Quartiles
- 2.6: Box Plots
- 2.7: Measures of Spread- Variance and Standard Deviation
- 2.8: Skewness and the Mean, Median, and Mode

3: Examining Relationships- Quantitative Data

- 3.1: Why It Matters- Examining Relationships- Quantitative Data
- 3.2: Linear Regression (4 of 4)
- 3.3: Introduction to Assessing the Fit of a Line
- 3.4: Assessing the Fit of a Line (1 of 4)
- 3.5: Assessing the Fit of a Line (2 of 4)
- 3.6: Assessing the Fit of a Line (3 of 4)
- 3.7: Assessing the Fit of a Line (4 of 4)
- 3.8: Putting It Together- Examining Relationships- Quantitative Data
- 3.9: StatTutor- Academic Performance
- 3.10: Assignment- Scatterplot
- 3.11: Assignment- Linear Relationships
- 3.12: Introduction to Scatterplots
- 3.13: Assignment- Linear Regression
- 3.14: Scatterplots (1 of 5)
- 3.15: Scatterplots (2 of 5)
- 3.16: Scatterplots (3 of 5)
- 3.17: Scatterplots (4 of 5)
- 3.18: Scatterplots (5 of 5)

- 3.19: Introduction to Linear Relationships
- 3.20: Linear Relationships (1 of 4)
- 3.21: Linear Relationships (2 of 4)
- 3.22: Linear Relationships (3 of 4)
- 3.23: Linear Relationships (4 of 4)
- 3.24: Introduction to Association vs Causation
- 3.25: Causation and Lurking Variables (1 of 2)
- 3.26: Causation and Lurking Variables (2 of 2)
- 3.27: Introduction to Linear Regression
- 3.28: Linear Regression (1 of 4)
- 3.29: Linear Regression (2 of 4)
- 3.30: Linear Regression (3 of 4)

4: Relationships in Categorical Data with Intro to Probability

- 4.1: Why It Matters- Relationships in Categorical Data with Intro to Probability
- 4.2: Introduction to Two-Way Tables
- 4.3: Two-Way Tables (1 of 5)
- 4.4: Two-Way Tables (2 of 5)
- 4.5: Two-Way Tables (3 of 5)
- 4.6: Two-Way Tables (4 of 5)
- 4.7: Two-Way Tables (5 of 5)
- 4.8: Putting It Together- Relationships in Categorical Data with Intro to Probability

5: Basic Concepts of Probability

- 5.1: Sample Spaces, Events, and Their Probabilities
- 5.2: Complements, Intersections, and Unions
- 5.3: Conditional Probability and Independent Events
- 5.E: Basic Concepts of Probability (Exercises)

6: Discrete Random Variables

- 6.1: Random Variables
- 6.2: Probability Distributions for Discrete Random Variables
- 6.3: The Binomial Distribution
- 6.E: Discrete Random Variables (Exercises)

7: Continuous Random Variables

- 7.1: Continuous Random Variables
- 7.2: The Standard Normal Distribution
- 7.3: Probability Computations for General Normal Random Variables
- 7.4: Areas of Tails of Distributions
- 7.E: Continuous Random Variables (Exercises)

8: Sampling Distributions

- 8.1: The Mean and Standard Deviation of the Sample Mean
- 8.2: The Sampling Distribution of the Sample Mean
- 8.3: The Sample Proportion
- 8.4: Using the Central Limit Theorem
 - 8.4E: Using the Central Limit Theorem (Exercises)
- 8.E: Sampling Distributions (Exercises)

9: Confidence Intervals

- [9.1: Prelude to Confidence Intervals](#)
- [9.2: A Single Population Mean using the Normal Distribution](#)
- [9.3: A Single Population Mean using the Student t-Distribution](#)
- [9.4: A Population Proportion](#)
- [9.5: Confidence Interval - Home Costs \(Worksheet\)](#)
- [9.6: Confidence Interval -Place of Birth \(Worksheet\)](#)
- [9.7: Confidence Interval -Women's Heights \(Worksheet\)](#)
- [9.E: Confidence Intervals \(Exercises\)](#)
- [9.S: Confidence Intervals \(Summary\)](#)

10: Hypothesis Testing with One Sample

- [10.1: Prelude to Hypothesis Testing](#)
- [10.2: Null and Alternative Hypotheses](#)
- [10.3: Outcomes and the Type I and Type II Errors](#)
- [10.4: Distribution Needed for Hypothesis Testing](#)
- [10.5: Rare Events, the Sample, Decision and Conclusion](#)
- [10.6: Additional Information and Full Hypothesis Test Examples](#)
- [10.7: Hypothesis Testing of a Single Mean and Single Proportion \(Worksheet\)](#)
- [10.E: Hypothesis Testing with One Sample \(Exercises\)](#)

[Index](#)

[Glossary](#)

[Detailed Licensing](#)