

Statistics

Name: _____

Unit 1 Describing Data



Homework Stamp Sheet

Each stamp is worth +3. Late stamps are +1.

Problems are always due at the next class period which means you have two nights to complete this.

All answers to the odd numbers are in the back of the book!

*Longer notebook assignments are due in two class periods which means you have four nights to complete this assignment.

Day	Topic and Assignment	Due	Exercises	Reading Stamp
1	Course Overview Notebook Assignment: Chapter 1 and 2 (pp. 2-15) Problems: Parent Signature and Chapter 2, p. 16 #1			
2	Categorical Data Notebook Assignment: Chapter 3 (pp 15 – 33) Problems: Chapter 3, p. 36 # 7, 11, 19			
3	Quantitative Data Problems: Chapter 3, p. 39 #23, 27, 31			
4	Describing Distributions Numerically Quiz on Data Notebook Assignment: Chapter 4 (pp 45 – 64) Problems: Chapter 4, p. 68 #13, 19, 25, 31			
5	Describing Distributions Numerically Notebook Assignment: Chapter 5 (pp. 73 – 89) Problems: Chapter 5, p. 90 # 3, 5, 11, 13, 19			
6	Review of Chapters 1 – 5 Notebook Assignment: Chapter 5 (pp. 73 – 89) Problems: p. 90 #21, 27, 29, 39 TEST NEXT CLASS			

Chapters 1 and 2 Notebook Assignment

- Copy and answer these questions neatly and legibly in your notebook.

1. Name three things you learned about *Statistics* in Chapter 1.
2. The authors claim that this book is very different from a typical mathematics textbook. Would you agree or disagree, based on what you read in Chapter 1? Explain.
3. According to the authors, what are the “three simple steps to doing *Statistics* right?”
4. Explain the difference between a *categorical variable* and a *quantitative variable*. Give an example of each.

- Complete the Just Checking Example on page 13
- Check the Flash Card Friday list for vocabulary words (Use p. 15)

Unit 1 Bathroom Pass
Present this coupon
in exchange for the
bathroom pass.
Otherwise receive +2
extra credit.

Chapter 3 Notebook Assignment

- Copy and answer these questions neatly and legibly in your notebook.
 1. According to the authors, what are the three rules of data analysis?
 2. Explain the difference between a frequency table and a relative frequency table.
 3. When is it appropriate to use a bar chart?
 4. When is it appropriate to use a pie chart?
 5. When is it appropriate to use a contingency table?
 6. What does a marginal distribution show?
 7. When is it appropriate to look at a conditional distribution?
 8. What does it mean for two variables to be independent?
 9. How does a segmented bar chart compare to a pie chart?
 10. Explain what is meant by Simpson's Paradox.
- Complete the Just Checking Example on page 28
- Check the Flash Card Friday list for vocabulary words (Use p. 34)

Chapter 4 Notebook Assignment

- Copy and answer these questions neatly and legibly in your notebook.
 1. What is meant by a *distribution*?
 2. Explain the difference between a *histogram* and a *relative frequency histogram*.
 3. In what ways are *histograms* similar to *stem-and-leaf displays*?
 4. Name some advantages and disadvantages of *stem-and-leaf displays*.
 5. When is it more appropriate to use a *histogram* rather than a *stem-and-leaf display*?
 6. Name some advantages and disadvantages of *dotplots*.
 7. When describing a *distribution*, what three things should you always mention?
 8. What should you look for when describing the *shape* of a *distribution*?
 9. In general, what is meant by the *center* of a *distribution*?
 10. In general, what is meant by the *spread* of a *distribution*?
 11. When is it appropriate to use a *time plot* to display quantitative data?
 12. What is meant by *re-expressing* or *transforming* data? What is the purpose of *re-expressing* or *transforming* data?
- Complete the Just Checking Example on page 53
- Check the Flash Card Friday list for vocabulary words (use page 62)

Chapter 5 Notebook Assignment

- Copy and answer these questions neatly and legibly in your notebook.
 1. Explain the difference between *range* and *interquartile range*. Why is the *interquartile range* often a better measure of the spread of a distribution?
 2. What are some advantages of *boxplots*?
 3. What are some disadvantages of *boxplots*?
 4. When is it more appropriate to use the *mean* as a measure of center rather than the *median*? Why?
 5. When is it more appropriate to use the *median* as a measure of center rather than the *mean*? Why?
 6. When do the *mean* and *median* have the same value?
 7. Describe the relationship between *variance* and *standard deviation*.
- Complete the Just Checking Example on page 84
- Check the Flash Card Friday list for vocabulary words (Use page 88)

AP Statistics Syllabus

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Course Description

The purpose of the AP statistics course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. The use of statistical vocabulary allows students to communicate effectively.

Primary Text: Bock, Velleman, DeVeaux (2007). *Stats Modeling the World*. Boston: Pearson Addison Wesley.

Supplemental Reading: Huff, D. (1954). *How to Lie with Statistics*. New York: W.W. Norton and Company, Inc.

Grading:

The grade consists of tests, quizzes, homework, and projects. A small percent of the grade will be class participation. Class participation will be based on attendance and punctuality. All tests will be timed using the format of the Advanced Placement test. Projects are primarily completed outside of class time. Projects can be individual or collaborative depending on the assignment. All assignments emphasize analyzing real situations and applying the appropriate statistics.

Attendance: Attendance and punctuality are essential for successful completing of an academic class. Students who are tardy or absent from class are expected to meet with the teacher outside of class to make-up assignments and materials. Attendance will be reflected in the class participation grade.

Homework:

Students are required to complete reading assignments and to do the odd numbered problems at the end of the chapters. Students are encouraged to check their answers in the back of the book as homework is rarely reviewed during class. Students can seek extra help on homework outside of class. **Dr. Wiersma will be available at 8 a.m. before class for a homework review session.**

Assignments:

All Assignments, including homework, will be posted on Blackboard for student use.

Class Expectations:

All students are expected to be prepared, polite, and punctual to class.

Extra Help:

Extra help is available before school, during AP study seminar, at second lunch and after-school by appointment.

Policy Statement Concerning Technology

Access to a TI-84 Plus is vital to completely access the information in this course. Graphing calculators are used to enhance development of statistical understanding through exploring data, analyzing data, assessing models, and doing simulations. Students have access to calculators in the classroom. Students who do not own a calculator can check out a school calculator for the duration of the course. In addition, a classroom computer is available for computer based statistical demonstrations.

Projects

The course contains major projects for students to that require students to bring together many aspects of the statistical process (design, analysis, and interpretation). The projects provide the students the opportunity to communicate methods, results and interpretations using appropriate statistical vocabulary.

Course Outline

Unit	Time	Topics and Activities
1	4 weeks	Exploring and Understanding Data
2	4 weeks	Gathering Data
3	5 weeks	Probability
4	5 weeks	From the Data at Hand to the World at Large
5	5 weeks	Learning About the World
6	5 weeks	Inferences When Variables are Related
7	4 weeks	Review