

Name: \_\_\_\_\_

## Summer Assignment AP Statistics 2024 - 2025

**Directions:** The following assignment is to be completed and turned in on the FIRST day of class. This work includes reading from Chapters 1 - 3 in your textbook, working problems in the textbook, and completing online activities on Khan Academy. In total, it will be worth 40 points. A 20% per day penalty will be deducted for lateness.

### To do:

- Watch the TED Talk (12-13 min video) - “Why you should love statistics” and answer the questions on the following page  
[https://www.ted.com/talks/alan\\_smith\\_why\\_we\\_re\\_so\\_bad\\_at\\_statistics](https://www.ted.com/talks/alan_smith_why_we_re_so_bad_at_statistics)
- Take the quiz for the United States and answer the questions on the following page:  
<https://www.theguardian.com/world/ng-interactive/2015/dec/02/how-well-do-you-really-know-your-country-take-our-quiz>
- Read chapters 1 - 3 and complete the accompanying reading guide for each chapter
- Complete the “Just Checking” problems from each chapter
- Complete the assigned problems from the book, showing all work
- Go to [khanacademy.org](https://www.khanacademy.org) and log in using your JBHA email (create an account if you do not have one). Go to “Teachers” and enter the join code PFFFFYFV. Complete the Khan Academy assignments.

Not required, but if you're interested, here is further reading relating to the video:

<https://www.ipsos.com/ipsos-mori/en-uk/perceptions-are-not-reality-what-world-gets-wrong>

## TED Talk questions

- What did you find most interesting about the video?
  
- Which topic(s) covered in the video would you like to explore further?

## United States Quiz questions

- Which statistic were you the closest on?
  
- Which statistic were you the furthest away from?
  
- Which statistic(s) surprised you the most?

## Chapter 1: Stats Starts Here

### Chapter 2: Data



#### Key Vocabulary:

- Statistics
- data, datum
- variation
- individual
- respondent
- subject
- participant
- experimental unit
- observation
- variable
- categorical
- quantitative

#### Calculator Skills:

- enter data in a list
- change a datum
- delete a datum
- name a new list
- clear a list
- delete a list
- recreate a list
- copy a list

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. What do the authors refer to as the “W’s of data?”
5. Why must data be in context (the W’s)?
6. Explain the difference between a *categorical variable* and a *quantitative variable*. Give an example of each.

**Chapter 2 Answers: “Just Checking” (page 13)**

1. Who:

What:

When:

Where:

Why:

How:

2.

Variable	Type	Units

**Problems from Chapter 2:**

On a separate piece of paper, complete:

# 12, 15, 16, and 26

## Chapter 3: Displaying and Describing Categorical Data



### Key Vocabulary:

- frequency table
- relative frequency table
- distribution
- bar chart
- pie chart
- contingency table
- marginal distribution
- conditional distribution
- independent
- segmented bar chart
- Simpson's Paradox

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.

**Chapter 3 Answers: “Just Checking” (page 30)**

1.

2.

3.

4.

5.

6.

7.

**Problems from Chapter 3:**

On a separate piece of paper, complete:

#5, 7, 9, 11 (create a pie chart), 13, 14, 17, 19, 22, 30, and 38