

The answers to these questions can be found in The Cartoon Introduction to Statistics by Klein and Dabney (ISBN: 978-0809033591).

These questions will be graded as a quiz grade.

Introduction (pp. 2 – 14)

1. What does statistics help you to do?
2. What are samples used for?

Chapter 1 Numbers

1. What is one piece of advice that this chapter gives?
2. Give an example from p. 23 on how not knowing all the information can be dangerous.
3. What questions should you ask of numbers?

Chapter 2 Random Raw Data

1. What is the strategy for learning about something to do with the population?
2. What two facts must we consider as we are working with samples?
 - a.
 - b.
1. What makes a good sample?
2. How do we avoid bias?

Chapter 3 Sorting

1. What two different types of data are there?

On p. 46 there is a picture of a histogram. Looking at the picture, try to describe what the x and y axis do in the question below.

2. The y-axis always answers the question, “How _____?”
3. When do we use histograms and when do we use boxplots?

Histograms:

Boxplot:

4. According to this chapter, after you collect the data, the first thing you should do with it is _____.

Chapter 4 Detective Work

1. What is our ultimate goal in gathering data?

What characteristics do we investigate about our data? List and write a main idea about each

- a.
- b.
- c.
- d.

Chapter 5 Monster Mistakes

1. What must you remember when you use statistics to draw conclusions?
2. What was the lurking variable in this chapter?
3. What is the problem with the lurking variable?

Chapter 6 From Samples to Populations

1. Why can't you look at an entire population? (This is not necessarily in the book)
2. Fill in the blanks: We refer to qualities in a sample as _____ and to qualities in populations as _____.

3. _____ are the numbers we know and can use to calculate.
4. _____ are the numbers we want to know, but can only make guesses about.

Chapter 7 The Central Limit Theorem

- [illegible]

Chapter 8 Probabilities

Page 107 The sampling distribution

1. Crazy Bill: What did he collect? _____
2. How many are in each can? _____
3. Look at middle of the curve where it is highest...What is the average length of the worms in most of the cans? _____

Page 108

1. What is the standard deviation of the distribution _____
2. By the way, it is important to understand that _____
(same answer as #1 is the average distance that the data is away from the mean.)

Page 109 So what did we learn about the population???

1. The average length of the worms in the population is _____.

Page 112

Rules about Probabilities

1. Rules about probabilities only apply to the _____.

For example, if the probability of rolling a six on a dice is $1/6$, it will only apply if you roll the dice many, many times.

2. Every probability has a _____.
For example, if the probability of getting a six is $1/6$, the probability of not getting a six is $5/6$. The probability and the “flip side” always add up to _____.
3. Probabilities only work about _____.

Page 115 (The Empirical Rule...68 -95-99.7)

If we have a normal curve, we can figure out where the data lies.

1. 68% of it is within one _____ of the mean.
2. 95% of it is within _____ standard deviations of the mean.
3. This sampling distribution is just theoretical. It does not really _____.

Chapter 9 Inference

1. Sometimes we want to guess where the _____ average is location.
2. We base our guess upon our _____ average. (see p. 129).
3. This is an estimated _____

Chapter 10 Confidence

1. What are we trying to do here??? We are trying to figure out where the average of the whole _____ is located.
2. We won't be 100% certain, but we can still make a good _____
3. This is kind of confusing, so we will wait for most of it until class, but what we basically do is use our sampling distribution from the last chapter and say which numbers we think that the true average may fall between. We will never know for sure if our guess is correct, but our math helps us to be about 95% _____ that our range contains the true average.

Chapter 11 They Hate Us

We will wait and see if they "hate us" during class!

Chapter 12 and Chapter 13

1. For now, I just want you to know that you are pitting a new _____ against an old/dull _____.

2. The goal is to see if the _____ supports the old claim or the new one.
According to page 190, we don't want to _____.

Tell me the two stories in these chapters and who won

Characters	Dull old Belief	exciting New Belief	Which one won out according to the evidence?

To Summarize p. 207

1. Statistics tries to investigate _____ and use the samples to search for truths about the overall _____. Mrs. Sturgill wants you to remember that no matter how hard we try to make an educated conclusion, there is always a chance that our conclusions are _____. Luckily, the _____ of that are quite small.