Test Bank for Statistics for People Who Think They Hate Statistics 8th Salkind

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Chapter 1: Statistics or Sadistics? It's Up to You

Total Questions: 96

Easy

Multiple Choice (17)

Q1. *[Multiple Choice]*

A collection of information is also called _____.

a) population subset
b) sample statistic
c) descriptive statistic
d) data set ✓ correct

Q2. *[Multiple Choice]*

A knowledge of statistics helps us make decisions based on _____ evidence.

a) logical
b) unobserved
c) possible
d) empirical ✓ correct

Q3. *[Multiple Choice]*

According to the text, the _____ is the value that best represents an entire group of scores.

a) mean
b) median
c) mode
d) average ✓ correct

Q4. *[Multiple Choice]*

According to the text, what is the most common average computed?

a) the mode
b) the mean ✓ correct
c) the variance
d) the median

Q5. *[Multiple Choice]*

In simple terms, measures of central tendency can also be described as _____.

a) statistical measures
b) measures of variability
c) averages ✓ correct
d) deviation scores

Q6. *[Multiple Choice]*

In simplest terms, statistics describes a set of _____ that are used for describing, organizing, and interpreting information.

a) statements
b) rules and exceptions
c) tools and techniques ✓ correct
d) numbers and letters

Q7. *[Multiple Choice]*

The measure of central tendency considered the least precise is the _____.

a) median
b) mode ✓ correct
c) mean
d) average

Q8. *[Multiple Choice]*

The type of descriptive statistic that tells you the most popular or most frequent choice from a selection of choices is the _____.

a) median
b) mode ✓ correct
c) mean
d) average

Q9. *[Multiple Choice]*

What does *n* represent?

a) sample size ✓ correct
b) population size
c) sum of scores
d) mean score

Q10. *[Multiple Choice]*

What does the symbol *M* stand for?

a) mean ✓ correct
b) sample size
c) population size
d) individual score

Q11. *[Multiple Choice]*

What does N stand for?

a) sample size
b) population size ✓ correct
c) sum of scores
d) mean score

Q12. *[Multiple Choice]*

What is the Greek name for the letter Σ?

a) phi
b) rho
c) sigma ✓ correct
d) alpha

Q13. *[Multiple Choice]*

What is the small subset of the population from whom you collect data called?

a) population
b) sample ✓ correct
c) database
d) group A

Q14. *[Multiple Choice]*

When humans first realized that counting was a good idea, which of the following became a useful skill for people to have?

a) knowing the alphabet
b) asking questions
c) collecting information ✓ correct
d) making decisions

Q15. *[Multiple Choice]*

Which of the following best describes the mode?

a) sum of all values in a group
b) midpoint in a set of scores
c) number of subject collected
d) most frequently occurring value(s) ✓ correct

Q16. *[Multiple Choice]*

Which of the following is one of the most popular and powerful analytic tools available today, and will be used throughout this text?

a) SPSS ✓ correct
b) Microsoft Word
c) Mini Tab
d) Excel

Q17. *[Multiple Choice]*

Which of these is the closest definition to the term median?

a) sum of all values in a group
b) most frequently occurring value
c) average variability in a set of scores
d) midpoint in a set of scores ✓ correct

True/False (4)

Q18. *[True/False]*

Generally, although sometimes called different things, the same statistics are used in most disciplines.

a) True ✓ correct
b) False

Correct answer: True

Q19. *[True/False]*

It is appropriate to use the mode as a measure of central tendency when the data are qualitative in nature.

a) True ✓ correct
b) False

Correct answer: True

Q20. *[True/False]*

Most of the basic statistical procedures were first developed and used in other fields and used to study human behavior much later.

a) True ✓ correct
b) False

Correct answer: True

Q21. *[True/False]*

The past 100 years have seen numerous examples of new ways to use old ideas.

a) True ✓ correct
b) False

Correct answer: True

Medium

Multiple Choice (37)

Q22. *[Multiple Choice]*

A common goal in statistics is to _____.

a) generalize results from a sample to a population ✓ correct
b) generalize results from a population to a sample
c) generalize results from a population to a second population
d) generalize results from a sample to a second sample

Q23. *[Multiple Choice]*

According to the text, once numbers became part of the human language, the next step in development was to attach numbers to _____.

a) outcomes ✓ correct
b) letters
c) places
d) time

Q24. *[Multiple Choice]*

According to the text, what tool will you need to complete most statistical analyses?

a) a personal computer ✓ correct
b) large computer mainframe
c) a slide rule
d) a highly trained technician

Q25. *[Multiple Choice]*

After the first set of data having to do with populations was collected during the 17th century, scientists needed to develop _____.

a) general tools to answer general questions
b) general tools to answer specific questions
c) specific tools to answer general questions
d) specific tools to answer specific questions ✓ correct

Q26. *[Multiple Choice]*

For researchers studying social phenomena, when should inferential statistics typically be used?

a) before applying descriptive statistics
b) after calculating descriptive statistics ✓ correct
c) at the same time as descriptive statistics analysis
d) when there is no way to use descriptive statistics

Q27. *[Multiple Choice]*

How are inferential statistics most often used?

a) to infer to the quality of data collected
b) to organize and describe data
c) to make interpretations from the sample about the population ✓ correct
d) to plot the data

Q28. *[Multiple Choice]*

How should you determine whether to use inferential or descriptive statistics?

a) based on the question you want to answer ✓ correct
b) after looking into the methods you choose for investigation
c) to most benefit the sample you select
d) based on the population you choose

Q29. *[Multiple Choice]*

If a distribution is “significantly distorted,” what is this called?

a) variability
b) outliers
c) skew ✓ correct
d) percentile

Q30. *[Multiple Choice]*

In simple terms, when researchers organize and analyze information in a way that makes it more easily understood, they are using _____.

a) analysis
b) data
c) statistics ✓ correct
d) interpretation

Q31. *[Multiple Choice]*

In statistical analyses, which symbol represents the individual score?

a) *X* ✓ correct
b) *n*
c) *N*
d) Σ

Q32. *[Multiple Choice]*

Inferential statistics is most often used for which of the following data processes?

a) summarizing
b) organizing
c) interpreting ✓ correct
d) collecting

Q33. *[Multiple Choice]*

Modern statisticians from many different professional areas use _____ techniques to answer different questions.

a) varied
b) the same ✓ correct
c) new
d) experimental

Q34. *[Multiple Choice]*

Out of these components, which is commonly used to determine central tendency?

a) a correlation
b) a graph
c) the standard deviation
d) the average ✓ correct

Q35. *[Multiple Choice]*

Researchers often use _____ statistics as the next step after having some basic understanding of data.

a) descriptive
b) inferential ✓ correct
c) experimental
d) observational

Q36. *[Multiple Choice]*

The _____ is defined of the middle point of a set of values.

a) median ✓ correct
b) mean
c) mode
d) average

Q37. *[Multiple Choice]*

The key contribution of inferential statistics is that scholars use them to _____ the data.

a) organize
b) balance
c) edit
d) interpret ✓ correct

Q38. *[Multiple Choice]*

The larger group from which researchers and scholars draw their samples is known as _____.

a) focus group
b) population ✓ correct
c) median
d) mode

Q39. *[Multiple Choice]*

The measure of central tendency most influenced by outliers is the _____.

a) median
b) mode
c) mean ✓ correct
d) variance

Q40. *[Multiple Choice]*

What does theΣsymbol represent?

a) the mean
b) the sum of values ✓ correct
c) the sample size
d) an individual score

Q41. *[Multiple Choice]*

What impact do extreme scores have on the median?

a) a positive skew
b) a negative skew
c) minimal impact ✓ correct
d) nullifies the value

Q42. *[Multiple Choice]*

What information will always be included in the mode?

a) number of cases
b) name of the category ✓ correct
c) how the category is formatted
d) the relative scale of the category

Q43. *[Multiple Choice]*

What is the meaning of the term skew regarding a set of data?

a) The data are significantly distorted. ✓ correct
b) It has been divided.
c) At least one data point has been added.
d) It is equalized.

Q44. *[Multiple Choice]*

What is the preferred measure of central tendency using the following data: 23 cars, 57 boats, and 14 trains?

a) mean
b) weighted mean
c) median
d) mode ✓ correct

Q45. *[Multiple Choice]*

What is the symbol used to represent the mean?

a) ??
b) ??
c) ?? ✓ correct
d) ??

Q46. *[Multiple Choice]*

What type of descriptive statistic is also referred to as the average?

a) mean ✓ correct
b) median
c) mode
d) descriptor

Q47. *[Multiple Choice]*

What type of statistics involves collecting, organizing, and summarizing data?

a) experimental
b) descriptive ✓ correct
c) inferential
d) organizational

Q48. *[Multiple Choice]*

What would be your preferred measure of central tendency if you had the following data: 57 males and 23 females?

a) median
b) weighted mean
c) mean
d) mode ✓ correct

Q49. *[Multiple Choice]*

When there is an even number of scores, how is the median calculated?

a) It is the average of the two middle scores. ✓ correct
b) Use the smaller of the two middle scores.
c) Use the larger of the two middle scores.
d) The median cannot be calculated in this situation.

Q50. *[Multiple Choice]*

Which measure of central tendency is also known as the midpoint for a set of scores?

a) mode
b) mean
c) median ✓ correct
d) sum

Q51. *[Multiple Choice]*

Which measure of central tendency is used when you calculate the average of individual income, which will also help you find any extreme scores?

a) mean
b) median ✓ correct
c) mode
d) standard error

Q52. *[Multiple Choice]*

Which of the following symbols represents sample size?

a) X
b) y
c) n **✓ correct**
d) M

Q53. *[Multiple Choice]*

Which of these has the key characteristic of being used to organize and describe the characteristics of a collection of data?

a) inferential statistics
b) descriptive statistics ✓ correct
c) sampling methods
d) population methods

Q54. *[Multiple Choice]*

Which of these techniques gives the reader less information about a sample than a measure of central tendency?

a) median
b) standard error
c) standard deviation
d) count ✓ correct

Q55. *[Multiple Choice]*

Why are descriptive measures most often used?

a) to describe how often something occurs ✓ correct
b) to determine if a sample is representative of a population
c) to predict an outcome
d) to determine the effect of an intervention

Q56. *[Multiple Choice]*

Your current exam mean is 93.2. If you receive an 87 on the next exam, this will have the effect of _____.

a) increasing your mean
b) decreasing your mean ✓ correct
c) having no effect on your mean
d) cannot determine

Q57. *[Multiple Choice]*

Your current exam mean is 95. If you receive a 95 on the next exam, your mean _____.

a) will increase
b) will decrease
c) will remain the same ✓ correct
d) cannot be determined

Q58. *[Multiple Choice]*

Your current exam mean is 97.2. If you receive a 99 on the next exam, what will happen to your mean?

a) It has no effect.
b) It will decrease
c) It will increase. ✓ correct
d) It cannot be determined.

True/False (4)

Q59. *[True/False]*

A population is best described as can be considered a selection of the occurrences with certain characteristics from a larger group.

a) True
b) False ✓ correct

Correct answer: False

Q60. *[True/False]*

Broadly speaking, the median is the most sensitive measure of central tendency to the effect of outliers.

a) True
b) False ✓ correct

Correct answer: False

Q61. *[True/False]*

Not all members of a sample are members of the population.

a) True

b) False ✓ correct

Correct answer: False

Q62. *[True/False]*

While there are three measures of central tendency, the mean, median, and mode are all interchangeable anyway.

a) True

b) False ✓ correct

Correct answer: False

Essay (5)

Q63. *[Essay]*

How can researchers think of statistics as a tool to understand the world around them?

Suggested answer: *Sample response: In the simplest terms, statistics describes a set of tools and techniques that are used for describing, organizing, and interpreting information or data. Researchers can apply these same techniques to a variety of situations to give themselves a good understanding of the world.*

Q64. *[Essay]*

How do descriptive statistics differ from inferential statistics? Is one technique superior to the other? Why or why not?

Suggested answer: *Sample response: Descriptive statistics are used to organize and describe the characteristics of a collection of data. On the other hand, inferential statistics are used to make inferences from a smaller group of data (the sample) to the larger group (population). In short, descriptive statistics organize and describe data, while inferential statistics are used to infer meaning about a larger population from a sample of the population. In my view, both techniques are equally as important, because they help us understand the social world in different ways.*

Q65. *[Essay]*

What do researchers mean by the term outlier? Why do researchers need to be sensitive to outliers?

Suggested answer: *Sample response: An outlier refers to any extreme scores in a data set. Researchers need to be sensitive to outliers, because they could dramatically skew the means of data sets, which could result in presenting a measure of central tendency that is actually inaccurate in terms of truly representing the central tendency as a whole.*

Q66. *[Essay]*

Why is the mean the most frequently used measure of central tendency?

Suggested answer: *Sample response: When the distribution of scores is free of outliers, otherwise known as extreme scores, the mean tends to be the most precise measure of central tendency. This makes it the most frequently used measure of central tendency, because people want to present the information in as clear a way as possible.*

Q67. *[Essay]*

Why would the median ever be a more appropriate measure of central tendency over the mean?

Suggested answer: *Sample response: The median is actually more accurate as a measure of central tendency when there are extreme scores in a distribution known as outliers. In that situation, calculating the mean would result in skewed results. The median provides a more accurate measure of the average.*

Hard

Multiple Choice (24)

Q68. *[Multiple Choice]*

George has organized and described his sample, and found that 30% of the sample has brown hair. What type of statistics is George using?

a) inferential
b) descriptive ✓ correct
c) ordinal
d) nominal

Q69. *[Multiple Choice]*

If you calculate the average age of everyone in your class, which in this example serves as a sample of the population of a school, what type of statistic will you have?

a) inferential
b) mode
c) median
d) descriptive ✓ correct

Q70. *[Multiple Choice]*

If you calculate the average of individual income and find no outliers, which measure of central tendency should you use?

a) mode
b) median
c) mean ✓ correct
d) other

Q71. *[Multiple Choice]*

If you know $M = 5$, and the sum of scores is 20, what is n?

a) 4 ✓ correct
b) 0.25
c) 100
d) 25

Q72. *[Multiple Choice]*

If $\Sigma X = 4{,}390$ and $n = 4$, what is M?

a) 17560
b) 0.01
c) 1097.5 ✓ correct
d) 4394

Q73. *[Multiple Choice]*

In her written report, Nancy wants to come up with another term to say the same thing as the term “mean.” Which of these terms would be suitable for her write-up?

a) midpoint
b) frequency value
c) arithmetic average ✓ correct
d) distribution

Q74. *[Multiple Choice]*

In his tests on human intelligence, Francis Galton popularized which statistical tool?

a) unit of analysis
b) variable
c) correlation coefficient ✓ correct
d) regression test

Q75. *[Multiple Choice]*

Market researchers sent out a survey to college students in Ohio to assess their preferences regarding three different brands of honey. When examining the average preference of the respondents, which measure of central tendency is most likely to be used to describe them?

a) median
b) mean
c) mode ✓ correct
d) weighted mean

Q76. *[Multiple Choice]*

What formula do researchers use to compute the mean?

a) $\Sigma X + n$
b) $\Sigma Y/X$
c) $\Sigma X/n$ **✓ correct**
d) $\Sigma N/y$

Q77. *[Multiple Choice]*

What is the mean value for the following scores: 10, 35, 40, 60, 55, 25, 50?

a) 45
b) 44.17
c) 40
d) 39.29 ✓ correct

Q78. *[Multiple Choice]*

What is the mean value of the following scores: 1.11, 1.17, 1.15, 2.02, 2.07, 3.11, 2.14?

a) 2.14
b) 2.07
c) 1.74
d) 1.82 ✓ correct

Q79. *[Multiple Choice]*

What is the mean value of the following scores: 117, 132, 147, 156, 196?

a) 151.2
b) 149.6 ✓ correct
c) 147
d) 148.7

Q80. *[Multiple Choice]*

What is the mean value of the following scores: 12, 25, 15, 27, 32, 8?

a) 19.83 ✓ correct
b) 21.24
c) 20.00
d) 19.98

Q81. *[Multiple Choice]*

What is the median for the following amounts: $11.75, $12.75, $13.00, $10.75, $11.50, $10.50, $10.75?

a) 11.5 ✓ correct
b) 11.75
c) 11.57
d) 11.00

Q82. *[Multiple Choice]*

What is the median for the following amounts: $13,400; $17,560; $45,440; $68,550; $96,400?

a) 13400
b) 48240
c) 45440 ✓ correct
d) 96400

Q83. *[Multiple Choice]*

What is the median of the following set of scores: 1.3, 4.7, 2.3, 3.3, 3.0, 2.9?

a) 2.95 ✓ correct
b) 3.05
c) 2.90
d) 3.00

Q84. *[Multiple Choice]*

What is the median of the following set of scores: 23, 17, 15, 32, 38, 47?

a) 23
b) 32
c) 17.4
d) 27.5 ✓ correct

Q85. *[Multiple Choice]*

What is the mode of the following data: 47 Republicans, 49 Democrats, and 52 independents?

a) 52
b) 49
c) Democrats
d) independents ✓ correct

Q86. *[Multiple Choice]*

What is the mode of the following data: 52 bowls of spaghetti, 37 bowls of cereal, 14 sandwiches, and 17 personal pizzas?

a) 14
b) bowls of spaghetti ✓ correct
c) 52
d) sandwiches

Q87. *[Multiple Choice]*

What is the mode of the following data: 57 males and 43 females?

a) 57
b) males ✓ correct
c) females
d) 43

Q88. *[Multiple Choice]*

What is the preferred measure of central tendency using the following data: $32,400; $42,500; $47,250; $49,570; $145,850?

a) mean
b) median ✓ correct
c) mode
d) weighted mean

Q89. *[Multiple Choice]*

What would be your preferred measure of central tendency if you had the following data: $31,550; $33,750; $34,700; $37,550; $39,275?

a) median
b) mode
c) mean ✓ correct
d) average

Q90. *[Multiple Choice]*

Which of the following sets of data shows the most skew?

a) 2, 3, 5, 7, 9
b) 450, 472, 523, 547, 601
c) 23, 37, 42, 51, 250 ✓ correct
d) 12, 14, 15, 17, 19

Q91. *[Multiple Choice]*

Your professor tells you, “If you don’t start with reliable data, you’ll end up with unreliable results.” You interpret this to mean which of the following?

a) A bird in the hand is worth two in the bush.
b) A watched pot never boils.
c) Don’t cry over spilt milk.
d) Garbage in, garbage out. ✓ correct

Essay (5)

Q92. *[Essay]*

According to the text, the introduction of personal computers and their use in statistical analyses has been both good and bad. Give an example of a “good” contribution of personal computers and one example of a “bad” contribution.

Suggested answer: *Sample response: GOOD: Most statistical analyses no longer require access to a huge and expensive mainframe computer; a simple computer, typically costing less than $500, can do most of what’s needed. BAD: Less-than-adequately-educated students will take available data and think that by running those data through a sophisticated analysis they will have reliable, trustworthy, and meaningful outcomes when they do not.*

Q93. *[Essay]*

In your own words, what is the difference between a sample and a population? Provide an example of each.

Suggested answer: *Sample response: A sample is a subset that a researcher studies, whereas a population is the larger group that the researcher hopes to make inferences about. An example of a population could be a University and the sample of that population could be a particular college class, like all of the students in Introduction to Statistics.*

Q94. *[Essay]*

Provide an example of when the mode is the best measure of central tendency to use. What are the limitations of relying on this as a measure of central tendency?

Suggested answer: *Sample response: The mode should be used when working with data that can’t be put in a numerical order, like when you use data that is in categories that can’t be rank-ordered. This would be the case for variables like gender or race. While this is the only measure that would work for categorical data, it doesn’t do much beyond telling us just what is the most common category.*

Q95. *[Essay]*

The study of statistics can be intimidating, but it can also be rewarding. What are two benefits to your life as a student that you can gain by engaging in the study of statistics?

> ***Suggested answer:*** *Sample response: By using statistical techniques and properly understanding how to run tests, I can do more work to make sure that I understand the world empirically and systematically. That could make me less biased toward certain actions, as I will be behaving more rationally. Secondly, I will be able to interpret results and information from credible sources with more specificity and accuracy.*

Q96. *[Essay]*

Why don't researchers just study populations if they are interested in making inferences about the general public?

> ***Suggested answer:*** *Sample response: In simple terms, the reason why researchers don't study entire populations is because it would be impossible to do so in a limited time frame. This is because the population refers to the entire group under analysis, and a sample is a subset that people actually can look at. It would be too time-consuming and difficult to actually analyze an entire population.*