Ch. 1 Introduction

1.1 Multiple Choice Questions

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) When using interval data, one cannot

A) set up inequalities. B) form differences. C) divide. D) do any of these.

2) When using ratio data, one cannot

A) set up inequalities. B) form differences.

C) divide. D) can do any of these.

3) A type of data that does not allow inequalities to have meaning is _____ data.

A) nominal B) ordinal C) interval D) ratio

4) A type of data in which zero indicates the absence of a certain property is _____ data.

A) nominal B) ordinal C) interval D) ratio

5) Measurements of height involve which kind of data?

A) nominal B) ordinal C) interval D) ratio

6) If the apartment numbers in a large building are looked upon as data, they would fall into the _____ category.

A) nominal B) ordinal C) interval D) ratio

1.2 Short Answer Questions

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

The annual sales for a manufacturing company for each of the past five years were $600,000, $721,000, $138,000, $621,000, $865,000. Which of the following conclusions can be obtained from these figures by purely descriptive methods, and which require generalizations?

1) With the information provided, solve the following: Among the five years, the highest sales were in the fifth year.

2) With the information provided, solve the following: The sales exceeded $800,000 in one of the five years.

3) With the information provided, solve the following: The sales increased from the fourth to the fifth year because of increased advertising expense.

4) With the information provided, solve the following: Sales were low in the third year because of the recession.

Is the following nominal, ordinal, interval, or ratio data? Explain your answer.

5) Scores of a basketball team in each of 10 games

6) Social Security numbers

7) Responses to a question concerning the evaluation of the service at a particular restaurant in which the categories are 5 (excellent) to 1 (poor)

8) Grades on a test in which the lowest grade is 0

Explain why the following data may fail to yield the desired information.

9) To predict a local election, a pollster samples only people who are leaving an expensive restaurant.

10) To determine students' opinions concerning the construction of a new building, an interviewer asks students, "Do you want the school to construct a new building, which will have the effect of raising tuition?"

On a statistics test, five students in a large class obtained the grades 75, 84, 92, 87, 84. Can the following conclusion be obtained by purely descriptive methods or does it require a generalization? Explain your answer.

11) None of the grades differs from 83 by more than 8 points.

12) The most common grade is 84.

13) The most common grade in the whole class is 84.

14) If another five students are selected, all grades will be between 75 and 92.

Explain why the following may lead to useless data:

15) To predict the public view of a proposed gun control law, a poll taker interviews people walking out of a local gun club.

16) A teacher evaluation form is administered to a class of students immediately after the whole class failed a test given by the teacher.

Is the following nominal, ordinal, interval, or ratio data? Explain your answer.

17) Credit card numbers

18) Stock prices

19) Telephone numbers

20) Supermarket customers rank order their preferences for 10 products.

1.3 True–False Questions

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

1) For an interviewer who wants accurate information, it is undesirable to "beg the question."

2) "Begging the question" is involved when the sample of people is not appropriate for the study.

3) Descriptive statistics involves making generalizations.

4) The art of describing the data belongs under the heading of statistical inference.

5) For nominal data, we cannot set up inequalities.

6) Nominal data is also called categorical data.

1.4 Fill–in–the–Blank Questions

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) With ordinal data we are allowed to _____ .

2) For interval data, we can _____ , but for ordinal data we cannot.

3) For ordinal data, we can _____ , but for nominal data we cannot.

4) For ratio data, we can _____ , but for interval data we cannot.

5) If an interviewer asks the question "Do you approve of the President's big spending policy?", he is making the error of _____ .

6) If the difficulty level of books is ranked from 1 to 10, a set of data rankings of books falls into the category of _____ data.

Ch. 1 Introduction
Answer Key

1.1 Multiple Choice Questions

1) C
2) D
3) A
4) D
5) D
6) A

1.2 Short Answer Questions

1) descriptive methods
2) descriptive methods
3) requires generalization
4) requires generalization
5) ratio (0 points indicates absence of points)
6) nominal (the numbers serve only to label people)
7) ordinal (can set up inequalities, but no differences)
8) ratio (0 points indicates absence of points)
9) Sample may contain a higher proportion of high–income people than is in the population.
10) The question shows the bias of the question; it is "begging the question."
11) Descriptive methods. The truth of the statement can be seen from the data.
12) Descriptive methods. The truth of the statement can be seen from the data.
13) Requires a generalization. The conclusion may be true, but cannot be seen from the data.
14) Requires a generalization. The statement may be true, but cannot be seen from the data.
15) The sample of people is likely to contain a higher proportion of people against the law than exists in the population.
16) The students' views may be influenced by their failure.
17) nominal (the numbers serve only to label people)
18) ratio (0 dollars indicates absence of dollars)
19) nominal (the numbers serve only to distinguish one phone from another)
20) ordinal (can set up inequalities but not differences)

1.3 True–False Questions

1) TRUE
2) FALSE
3) FALSE
4) FALSE
5) TRUE
6) TRUE

1.4 Fill–in–the–Blank Questions

1) set up inequalities
2) form differences
3) set up inequalities
4) multiply and divide
5) "Begging the question"
6) ordinal