**Ch. 1 Introduction to Statistics**

1.1 An Overview of Statistics

**1 Distinguish Between a Population and a Sample**

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

**Identify the population and the sample.**

1) A survey of 1353 American households found that 18% of the households own a computer.

2) When 1564 American households were surveyed, it was found that 57% of them owned two cars.

3) A survey of 2625 elementary school children found that 28% of the children could be classified as obese.

**2 Distinguish Between a Parameter and a Statistic**

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

**Determine whether the numerical value is a parameter or a statistic. Explain your reasoning.**

1) A recent survey by the alumni of a major university indicated that the average salary of 10,000 of its 300,000

graduates was $125,000.

2) The average salary of all assembly-line employees at a certain car manufacturer is $33,000..

3) A survey of 1103 students was taken from a university with 18,500 students.

**3 Distinguish Between Descriptive Statistics and Inferential Statistics**

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

**Identify whether the statement describes inferential statistics or descriptive statistics.**

1) The average age of the students in a statistics class is 22 years. Does this statement describe:

A) descriptive statistics B) inferential statistics

2) The chances of winning the California Lottery are one chance in twenty-two million. Does this statement

describe:

A) inferential statistics B) descriptive statistics

3) There is a relationship between smoking cigarettes and getting emphysema. Does this statement describe:

A) inferential statistics B) descriptive statistics

4) From past figures, it is predicted that 39% of the registered voters in California will vote in the June primary.

Does this statement describe:

A) inferential statistics B) descriptive statistics

5) Based on previous clients, a marriage counselor concludes that the majority of marriages that begin with

cohabitation before marriage will result in divorce. Does this statement describe:

A) inferential statistics B) descriptive statistics

1.2 Data Classification

**1 Distinguish Between Qualitative and Quantitative Data**

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

Determine whether the data are qualitative or quantitative.

1) the colors of automobiles on a used car lot

A) qualitative B) quantitative

2) the number of complaint letters received by the United States Postal Service in a given day

A) quantitative B) qualitative

3) the number of seats in a movie theater

A) quantitative B) qualitative

**2.1**

**The heights (in inches) of 33 adult males are listed below.**

**70 72 71 70 69 73 69 68 70 71 67**

**67 71 70 74 69 68 71 71 71 72 51**

**69 71 68 67 73 74 70 71 69 68 66**

a) Construct a frequency distribution, a relative frequency distribution, and a cumulative frequency distribution

using five classes.

b) Construct a frequency histogram using five classes.

c) Construct a relative frequency histogram using five classes.

d) Construct a stem-and-leaf plot

3) For the stem-and-leaf plot below, what is the maximum and what is the minimum entry?

Key : 11| 2 = 11.2

Stem Leaf

11 0 2

12 4 6 6 7 8 9

13 0 1 1 2 3 6 6 7 8 8

14 3 4 6 6 8 9 9 9

15 0 1 1 2 3 7 7 8 9

16 2 2 5 7 8 8 9 9

17 0 5

A) max: 17.5; min: 11.0 B) max: 175; min: 110

C) max: 17.0; min: 11.0 D) max: 17.5; min: 11.2

2.3 Measures of Central Tendency

**1 Interpret the Graph of a Distribution**

1) Data set: California Pick Three Lottery

8 6 7 6 0 9 1 7 8 4

1 5 7 5 9 7 5 3 9 9

8 8 3 9 8 8 9 0 2 7

1. negatively skewed B) symmetric C) uniform D) positively skewed