***Statistical Techniques in Business and Economics, 17e* (Lind)**

**Chapter 1 What is Statistics?**

1) A population is a collection of all individuals, objects, or measurements of interest.

2) Statistics are used as a basis for making decisions.

3) A listing of 100 family annual incomes is an example of statistics.

4) The average number of passengers on commercial flights between Chicago and New York City is an example of a statistic.

5) Statistics is used to report the summary results of market surveys.

6) A sample is a portion or part of the population of interest.

7) To infer something about a population, we usually take a sample from the population.

8) Descriptive statistics are used to find out something about a population based on a sample.

9) There are four levels of measurement: qualitative, quantitative, discrete, and continuous.

10) The ordinal level of measurement is considered the "lowest" level of measurement.

11) A store asks shoppers for their zip codes to identify market areas. Zip codes are an example of ratio data.

12) An ordinal level of measurement implies some sort of ranking.

13) Data measured on a nominal scale can only be classified into categories.

14) The terms descriptive statistics and inferential statistics can be used interchangeably.

15) A marketing research agency was hired to test a new DVD player. Consumers rated it outstanding, very good, fair, or poor. The level of measurement for this experiment is ordinal.

16) The Union of Electrical Workers of America with 9,128 members polled 362 members about a new wage package that will be submitted to management. The population is the 362 members.

17) The *CIA World Factbook* cited these numbers for the United States:

• The birthrate is 13.66 births per 1,000 of the population.

• The average life expectancy for females is 81.17 years.

• Approximately 316.7 million persons reside in the United States.

Each of these numbers is referred to as a statistic.

18) If we select 100 persons from 25,000 registered voters and question them about candidates and issues, the 100 persons are referred to as the population.

19) Statistics is defined as a body of techniques used to facilitate the collection, organization, presentation, analysis, and interpretation of information for the purpose of making better decisions.

20) Categorizing voters as Democrats, Republicans, and Independents is an example of interval level measurement.

21) The order in which runners finish in a race would be an example of continuous data.

22) Based on a sample of 3,000 people, the civilian unemployment rate in the United States was 5.5%. 5.5% is referred to as a statistic.

23) The principal difference between the interval and ratio scale is that the ratio scale has a meaningful zero point.

24) The branch of mathematics used to facilitate the collection, organization, presentation, analysis, and interpretation of numerical information is referred to as statistics.

25) The number of children in a family is a discrete variable.

26) The main purpose of descriptive statistics is to

A) summarize data in a useful and informative manner.

B) make inferences about a population.

C) determine if the data adequately represent the population.

D) gather or collect data.

27) Which of the following is an example of a continuous variable?

A) Tons of concrete to complete a parking garage

B) Number of students in a statistics class

C) Zip codes of shoppers

D) Rankings of baseball teams in a league

28) The incomes of 50 loan applicants are obtained. Which level of measurement is income?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

29) When TV advertisements report that "2 out of 3 dentists surveyed indicated they would recommend Brand X toothpaste to their patients," an informed consumer may question the conclusion because

A) the sample was only 5 dentists.

B) the sample of dentists is clearly explained.

C) the advertisement does not include the total number of dentists surveyed.

D) the conclusion is not illustrated with a graph.

30) A bank asks customers to evaluate its drive-through service as good, average, or poor. Which level of measurement is this classification?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

31) A portion or part of a population is called a

A) random survey.

B) sample.

C) tally.

D) frequency distribution.

32) If Gallup, Harris, and other pollsters asked people to indicate their political party affiliations as Democrat, Republican, or independent, the data gathered would be an example of which scale of measurement?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

33) The members of each basketball team wear numbers on their jerseys. What scale of measurement are these numbers considered?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

34) A marketing class of 50 students evaluated the instructor using the following scale: superior, good, average, poor, or inferior. The descriptive summary showed the following survey results: 2% superior, 8% good, 45% average, 45% poor, and 0% inferior.

A) The instructor's performance was great!

B) The instructor's performance was inferior.

C) Most students rated the instructor as poor or average.

D) No conclusions can be made.

35) A survey includes a question about marital status that has the following responses: single, married, divorced, separated, or widowed. What is the scale of measurement for this question?

A) Ratio

B) Interval

C) Ordinal

D) Nominal

36) Respondents were asked, "Do you now earn more than or less than you did five years ago?" What is this level of measurement?

A) Interval

B) Ratio

C) Nominal

D) Ordinal

37) Which word is NOT part of the definition of descriptive statistics?

A) Organizing

B) Summarizing

C) Presenting

D) Predicting

38) The reported unemployment is 5.5% of the population. What measurement scale is used to measure unemployment?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

39) The Equal Employment Opportunity Act requires employers to classify their employees by gender and national origin. Which level of measurement is this?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

40) What level of measurement is the Centigrade temperature scale?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

41) What type of variable is the number of gallons of gasoline pumped by a filling station during a day?

A) Qualitative

B) Continuous

C) Attribute

D) Discrete

42) The performance of personal and business investments is measured as a percentage called "return on investment." What type of variable is "return on investment"?

A) Qualitative

B) Continuous

C) Attribute

D) Discrete

43) What type of variable is the number of robberies reported in your city?

A) Attribute

B) Continuous

C) Quantitative

D) Qualitative

44) What type of variable is the number of auto accidents reported in a given month?

A) Interval

B) Ratio

C) Continuous

D) Discrete

45) The names of the positions in a corporation, such as chief operating officer or controller, are examples of what type of variable?

A) Qualitative

B) Quantitative

C) Interval

D) Ratio

46) What type of variable is "pounds of popcorn" served at a movie theater?

A) Interval

B) Ratio

C) Discrete

D) Continuous

47) The final rankings of the top 20 NCAA college basketball teams are an example of which level of measurement?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

48) Your height and weight are examples of which level of measurement?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

49) Shoe style is an example of what level of measurement?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

50) The general process of gathering, organizing, summarizing, analyzing, and interpreting data is called

A) statistics.

B) descriptive statistics.

C) inferential statistics.

D) levels of measurement.

51) The Nielsen Ratings break down the number of people watching a particular television show by age. What level of measurement is age?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

52) An example of a qualitative variable is

A) number of children in a family.

B) weight of a person.

C) color of ink in a pen.

D) miles between oil changes.

53) Which one of the following is NOT an example of discrete data?

A) Number of households watching the Home Shopping Network

B) Number of employees reporting in sick

C) Number of miles between New York City and Chicago

D) Number of members of the Denver Lions Club

54) What level of measurement is a person's "favorite sport"?

A) Ratio

B) Ordinal

C) Interval

D) Nominal

55) A group of women tried five brands of fingernail polish and ranked them according to preference. What level of measurement is this?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

56) A university wishes to conduct a student survey. In one of the questions students are asked to mark their gender as either male or female. Gender is an example of the

A) ordinal scale.

B) nominal scale.

C) ratio scale.

D) interval scale.

57) Income is a variable often used in business and economics. Income is an example of a variable that uses the

A) ordinal scale.

B) nominal scale.

C) ratio scale.

D) interval scale.

58) When statisticians analyze sample data in order to draw conclusions about the characteristics of a population, this is referred to as

A) descriptive statistics.

B) statistical inference.

C) data analysis.

D) data summarization.

59) The length of a bridge, measured in meters, is an example of

A) categorical data.

B) either categorical or quantitative data.

C) measurement data.

D) quantitative data.