

*Statistics for Managers Using Microsoft Excel, 6e (Levine)*  
**Chapter 2 Presenting Data in Tables and Charts**

1) Jared was working on a project to look at global warming and accessed an Internet site where he captured average global surface temperatures from 1866. Which of the four methods of data collection was he using?

- A) Published sources
- B) Experimentation
- C) Surveying
- D) Observation

Answer: A

Diff: 1

Keywords: sources of data

2) The British Airways Internet site provides a questionnaire instrument that can be answered electronically. Which of the 4 methods of data collection is involved when people complete the questionnaire?

- A) Published sources
- B) Experimentation
- C) Surveying
- D) Observation

Answer: C

Diff: 1

Keywords: sources of data

3) A marketing research firm, in conducting a comparative taste test, provided three types of peanut butter to a sample of households randomly selected within the state. Which of the 4 methods of data collection is involved when people are asked to compare the three types of peanut butter?

- A) Published sources
- B) Experimentation
- C) Surveying
- D) Observation

Answer: B

Diff: 1

Keywords: sources of data

4) Tim was planning for a meeting with his boss to discuss a raise in his annual salary. In preparation, he wanted to use the Consumer Price Index to determine the percentage increase in his real (inflation-adjusted) salary over the last three years. Which of the 4 methods of data collection was involved when he used the Consumer Price Index?

- A) Published sources
- B) Experimentation
- C) Surveying
- D) Observation

Answer: A

Diff: 1

Keywords: sources of data

5) Which of the 4 methods of data collection is involved when a person counts the number of cars passing designated locations on the Los Angeles freeway system?

- A) Published sources
- B) Experimentation
- C) Surveying
- D) Observation

Answer: D

Diff: 2

Keywords: sources of data

6) A statistics student found a reference in the campus library that contained the median family incomes for all 50 states. She would report her data as being collected using

- A) a designed experiment.
- B) observational data.
- C) a random sample.
- D) a published source.

Answer: D

Diff: 1

Keywords: sources of data

7) The personnel director at a large company studied the eating habits of the company's employees. The director noted whether employees brought their own lunches to work, ate at the company cafeteria, or went out to lunch. The goal of the study was to improve the food service at the company cafeteria. This type of data collection would best be considered as

- A) an observational study.
- B) a designed experiment.
- C) a random sample.
- D) a quota sample.

Answer: A

Diff: 1

Keywords: sources of data

8) A study attempted to estimate the proportion of Florida residents who were willing to spend more tax dollars on protecting the beaches from environmental disasters. Twenty-five hundred Florida residents were surveyed. What type of data collection procedure was most likely used to collect the data for this study?

- A) a designed experiment
- B) a published source
- C) a random sample
- D) observational data

Answer: C

Diff: 1

Keywords: sources of data

9) Which of the following is a discrete numerical variable?

- A) The Dow Jones Industrial average
- B) The volume of water released from a dam
- C) The distance you drove yesterday
- D) The number of employees of an insurance company

Answer: D

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

10) Which of the following is a continuous numerical variable?

- A) The color of a student's eyes
- B) The number of employees of an insurance company
- C) The amount of milk produced by a cow in one 24-hour period
- D) The number of gallons of milk sold at the local grocery store yesterday

Answer: C

Diff: 1

Keywords: continuous random variable, types of data

Topics: Section 2.1

11) To monitor campus security, the campus police office is taking a survey of the number of students in a parking lot each 30 minutes of a 24-hour period with the goal of determining when patrols of the lot would serve the most students. If  $X$  is the number of students in the lot each period of time, then  $X$  is an example of

- A) a categorical random variable.
- B) a discrete random variable.
- C) a continuous random variable.
- D) a statistic.

Answer: B

Diff: 2

Keywords: discrete random variable, types of data

Topics: Section 2.1

12) Researchers are concerned that the weight of the average American school child is increasing implying, among other things, that children's clothing should be manufactured and marketed in larger sizes. If  $X$  is the weight of school children sampled in a nationwide study, then  $X$  is an example of

- A) a categorical random variable.
- B) a discrete random variable.
- C) a continuous random variable.
- D) a parameter.

Answer: C

Diff: 2

Keywords: continuous random variable, types of data

Topics: Section 2.1

13) The classification of student class designation (freshman, sophomore, junior, senior) is an example of

- A) a categorical random variable.
- B) a discrete random variable.
- C) a continuous random variable.
- D) a parameter.

Answer: A

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

14) The classification of student major (accounting, economics, management, marketing, other) is an example of

- A) a categorical random variable.
- B) a discrete random variable.
- C) a continuous random variable.
- D) a parameter.

Answer: A

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

15) The chancellor of a major university was concerned about alcohol abuse on her campus and wanted to find out the proportion of students at her university who visited campus bars on the weekend before the final exam week. Her assistant took a random sample of 250 students. The total number of students in the sample who visited campus bars on the weekend before the final exam week is an example of

- A) a categorical random variable.
- B) a discrete random variable.
- C) a continuous random variable.
- D) a parameter.

Answer: B

Diff: 2

Keywords: discrete random variable, types of data

Topics: Section 2.1

16) The chancellor of a major university was concerned about alcohol abuse on her campus and wanted to find out the proportion of students at her university who visited campus bars on the weekend before the final exam week. Her assistant took a random sample of 250 students. The portion of students in the sample who visited campus bars on the weekend before the final exam week is an example of \_\_\_\_\_.

- A) a categorical random variable
- B) a discrete random variable
- C) a continuous random variable
- D) a parameter

Answer: C

Diff: 3

Keywords: continuous random variable, types of data

Topics: Section 2.1

#### TABLE 2-1

The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a DVD player made by the company over the past 12 months are satisfied with their products.

17) Referring to Table 2-1, the possible responses to the question "How many DVD players made by other manufacturers have you used?" are values from a

- A) discrete random variable.
- B) continuous random variable.
- C) categorical random variable.
- D) parameter.

Answer: A

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

18) Referring to Table 2-1, the possible responses to the question "Are you happy, indifferent, or unhappy with the performance per dollar spent on the DVD player?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: C

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

19) Referring to Table 2-1, the possible responses to the question "What is your annual income rounded to the nearest thousands?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: A

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

20) Referring to Table 2-1, the possible responses to the question "How much time do you use the DVD player every week on the average?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: B

Diff: 1

Keywords: continuous random variable, types of data

Topics: Section 2.1

21) Referring to Table 2-1, the possible responses to the question "How many people are there in your household?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: A

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

22) Referring to Table 2-1, the possible responses to the question "How would you rate the quality of your purchase experience with 1 = excellent, 2 = good, 3 = decent, 4 = poor, 5 = terrible?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: C

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

23) Referring to Table 2-1, the possible responses to the question "What brand of DVD player did you purchase?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: C

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

24) Referring to Table 2-1, the possible responses to the question "Out of a 100 point score with 100 being the highest and 0 being the lowest, what is your satisfaction level on the DVD player that you purchased?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: A

Diff: 2

Keywords: discrete random variable, types of data

Topics: Section 2.1

25) Referring to Table 2-1, the possible responses to the question "In which year were you born?" are values from a

- A) discrete numerical random variable.
- B) continuous numerical random variable.
- C) categorical random variable.
- D) parameter.

Answer: A

Diff: 2

Keywords: discrete random variable, types of data

Topics: Section 2.1

26) Referring to Table 2-1, the possible responses to the question "How many DVD players made by other manufacturers have you used?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: D

Diff: 2

Keywords: ratio scale, types of data

Topics: Section 2.1

27) Referring to Table 2-1, the possible responses to the question "Are you happy, indifferent, or unhappy with the performance per dollar spent on the DVD player?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: B

Diff: 2

Keywords: ordinal scale, types of data

Topics: Section 2.1

28) Referring to Table 2-1, the possible responses to the question "What is your annual income rounded to the nearest thousands?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: D

Diff: 2

Keywords: ratio scale, types of data

Topics: Section 2.1

29) Referring to Table 2-1, the possible responses to the question "How much time do you use the DVD player every week on the average?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: D

Diff: 2

Keywords: ratio scale, types of data

Topics: Section 2.1

30) Referring to Table 2-1, the possible responses to the question "How many people are there in your household?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: D

Diff: 2

Keywords: ratio scale, types of data

Topics: Section 2.1



31) Referring to Table 2-1, the possible responses to the question "How would you rate the quality of your purchase experience with 1 = excellent, 2 = good, 3 = decent, 4 = poor, 5 = terrible?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: B

Diff: 2

Keywords: ordinal scale, types of data

Topics: Section 2.1

32) Referring to Table 2-1, the possible responses to the question "What brand of DVD player did you purchase?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: A

Diff: 1

Keywords: nominal scale, types of data

Topics: Section 2.1

33) Referring to Table 2-1, the possible responses to the question " Out of a 100 point score with 100 being the highest and 0 being the lowest, what is your satisfaction level on the DVD player that you purchased?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: C

Explanation: C) The rating is interval scale not ordinal scale because the difference in rating between "80" and "90" can be treated as the same as the difference between "30" and "40".

Diff: 1

Keywords: interval scale, types of data

Topics: Section 2.1

34) Referring to Table 2-1, the possible responses to the question "In which year were you born?" result in

- A) a nominal scale variable.
- B) an ordinal scale variable.
- C) an interval scale variable.
- D) a ratio scale variable.

Answer: C

Diff: 2

Keywords: interval scale, types of data

Topics: Section 2.1

TABLE 2-2

An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. A representative from a local insurance agency selected a random sample of insured drivers and recorded,  $X$ , the number of claims each made in the last 3 years, with the following results.

$X$	$f$
1	14
2	18
3	12
4	5
5	1

35) Referring to Table 2-2, how many drivers are represented in the sample?

- A) 5
- B) 15
- C) 18
- D) 50

Answer: D

Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

36) Referring to Table 2-2, how many total claims are represented in the sample?

- A) 15
- B) 50
- C) 111
- D) 250

Answer: C

Diff: 2

Keywords: interpretation, frequency distribution

Topics: Section 2.4

37) A type of vertical bar chart in which the categories are plotted in the descending rank order of the magnitude of their frequencies is called a

- A) contingency table.
- B) Pareto chart.
- C) dot plot.
- D) pie chart.

Answer: B

Diff: 1

Keywords: Pareto chart

Topics: Section 2.5

TABLE 2-3

At a meeting of information systems officers for regional offices of a national company, a survey was taken to determine the number of employees the officers supervise in the operation of their departments, where  $X$  is the number of employees overseen by each information systems officer.

$X$	$f$
1	7
2	5
3	11
4	8
5	9

38) Referring to Table 2-3, how many regional offices are represented in the survey results?

- A) 5
- B) 11
- C) 15
- D) 40

Answer: D

Diff: 1

Keywords: interpretation, frequency distribution

Topics: Section 2.4

39) Referring to Table 2-3, across all of the regional offices, how many total employees were supervised by those surveyed?

- A) 15
- B) 40
- C) 127
- D) 200

Answer: C

Diff: 2

Keywords: interpretation, frequency distribution

Topics: Section 2.4

40) The width of each bar in a histogram corresponds to the

- A) differences between the boundaries of the class.
- B) number of observations in each class.
- C) midpoint of each class.
- D) percentage of observations in each class.

Answer: A

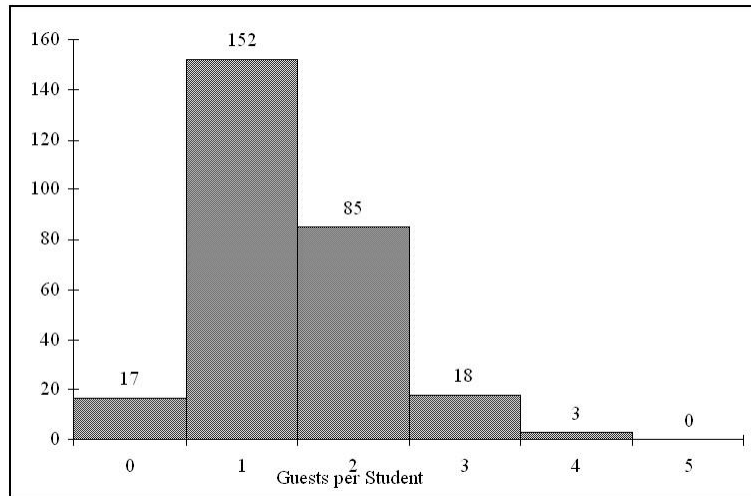
Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

TABLE 2-4

Every spring semester, the School of Business coordinates with local business leaders a luncheon for graduating seniors, their families, and friends. Corporate sponsorship pays for the lunches of each of the seniors, but students have to purchase tickets to cover the cost of lunches served to guests they bring with them. The following histogram represents the attendance at the senior luncheon, where  $X$  is the number of guests each graduating senior invited to the luncheon and  $f$  is the number of graduating seniors in each category.



41) Referring to the histogram from Table 2-4, how many graduating seniors attended the luncheon?

- A) 4
- B) 152
- C) 275
- D) 388

Answer: C

Explanation: C) The number of graduating seniors is the sum of all the frequencies,  $f$ .

Diff: 3

Keywords: interpretation, histogram

Topics: Section 2.6

42) Referring to the histogram from Table 2-4, if all the tickets purchased were used, how many guests attended the luncheon?

- A) 4
- B) 152
- C) 275
- D) 388

Answer: D

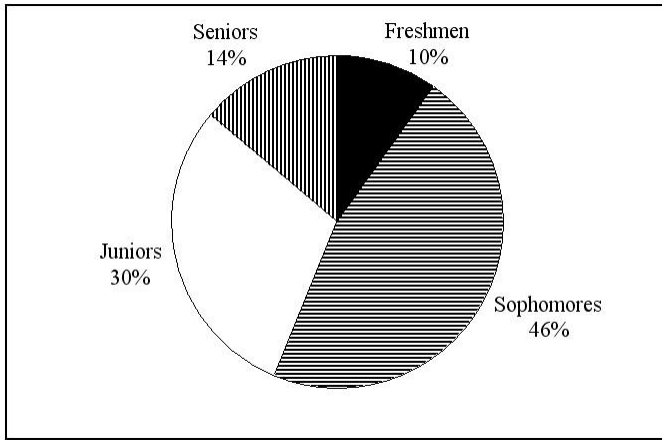
Explanation: D) The total number of guests is  $\sum_{i=1}^6 X_i f_i$ .

Diff: 3

Keywords: interpretation, histogram

Topics: Section 2.6

43) A professor of economics at a small Texas university wanted to determine what year in school students were taking his tough economics course. Shown below is a pie chart of the results. What percentage of the class took the course prior to reaching their senior year?



- A) 14%
- B) 44%
- C) 54%
- D) 86%

Answer: D

Diff: 1

Keywords: interpretation, pie chart

Topics: Section 2.5

44) When polygons or histograms are constructed, which axis must show the true zero or "origin"?

- A) The horizontal axis.
- B) The vertical axis.
- C) Both the horizontal and vertical axes.
- D) Neither the horizontal nor the vertical axis.

Answer: B

Diff: 1

Keywords: polygon, histogram

Topics: Section 2.6

45) When constructing charts, the following is plotted at the class midpoints:

- A) frequency histograms.
- B) percentage polygons.
- C) cumulative relative frequency ogives.
- D) All of the above.

Answer: B

Diff: 1

Keywords: percentage polygon

Topics: Section 2.6

TABLE 2-5

A survey was conducted to determine how people rated the quality of programming available on television. Respondents were asked to rate the overall quality from 0 (no quality at all) to 100 (extremely good quality). The stem-and-leaf display of the data is shown below.

<u>Stem</u>	<u>Leaves</u>
3	24
4	03478999
5	0112345
6	12566
7	01
8	
9	2

46) Referring to Table 2-5, what percentage of the respondents rated overall television quality with a rating of 80 or above?

- A) 0
- B) 4
- C) 96
- D) 100

Answer: B

Diff: 1

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

47) Referring to Table 2-5, what percentage of the respondents rated overall television quality with a rating of 50 or below?

- A) 11
- B) 40
- C) 44
- D) 56

Answer: C

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

48) Referring to Table 2-5, what percentage of the respondents rated overall television quality with a rating between 50 and 75?

- A) 11
- B) 40
- C) 44
- D) 56

Answer: D

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

TABLE 2-6

The following are the durations in minutes of a sample of long-distance phone calls made within the continental United States reported by one long-distance carrier.

<u>Time (in Minutes)</u>	<u>Relative Frequency</u>
0 but less than 5	0.37
5 but less than 10	0.22
10 but less than 15	0.15
15 but less than 20	0.10
20 but less than 25	0.07
25 but less than 30	0.07
30 or more	0.02

49) Referring to Table 2-6, what is the width of each class?

- A) 1 minute
- B) 5 minutes
- C) 2%
- D) 100%

Answer: B

Diff: 1

Keywords: class interval, relative frequency distribution

Topics: Section 2.4

50) Referring to Table 2-6, if 1,000 calls were randomly sampled, how many calls lasted under 10 minutes?

- A) 220
- B) 370
- C) 410
- D) 590

Answer: D

Diff: 2

Keywords: relative frequency distribution, interpretation

Topics: Section 2.4

51) Referring to Table 2-6, if 100 calls were randomly sampled, how many calls lasted 15 minutes or longer?

- A) 10
- B) 14
- C) 26
- D) 74

Answer: C

Diff: 2

Keywords: relative frequency distribution, interpretation

Topics: Section 2.4

52) Referring to Table 2-6, if 10 calls lasted 30 minutes or more, how many calls lasted less than 5 minutes?

- A) 10
- B) 185
- C) 295
- D) 500

Answer: B

Diff: 2

Keywords: relative frequency distribution, interpretation

Topics: Section 2.4

53) Referring to Table 2-6, what is the cumulative relative frequency for the percentage of calls that lasted under 20 minutes?

- A) 0.10
- B) 0.59
- C) 0.76
- D) 0.84

Answer: D

Diff: 1

Keywords: cumulative relative frequency

Topics: Section 2.4

54) Referring to Table 2-6, what is the cumulative relative frequency for the percentage of calls that lasted 10 minutes or more?

- A) 0.16
- B) 0.24
- C) 0.41
- D) 0.90

Answer: C

Diff: 2

Keywords: cumulative relative frequency

Topics: Section 2.4

55) Referring to Table 2-6, if 100 calls were randomly sampled, \_\_\_\_\_ of them would have lasted at least 15 minutes but less than 20 minutes.

- A) 6
- B) 8
- C) 10
- D) 16

Answer: C

Diff: 1

Keywords: relative frequency distribution, interpretation

Topics: Section 2.4



56) Referring to Table 2-6, if 100 calls were sampled, \_\_\_\_\_ of them would have lasted less than 15 minutes.

- A) 26
- B) 74
- C) 10
- D) None of the above.

Answer: B

Diff: 2

Keywords: relative frequency distribution, interpretation

Topics: Section 2.4

57) Referring to Table 2-6, if 100 calls were sampled, \_\_\_\_\_ of them would have lasted 20 minutes or more.

- A) 26
- B) 16
- C) 74
- D) None of the above.

Answer: B

Diff: 2

Keywords: relative frequency distribution, interpretation

Topics: Section 2.4

58) Referring to Table 2-6, if 100 calls were sampled, \_\_\_\_\_ of them would have lasted less than 5 minutes or at least 30 minutes or more.

- A) 35
- B) 37
- C) 39
- D) None of the above.

Answer: C

Diff: 3

Keywords: relative frequency distribution, interpretation

Topics: Section 2.4

59) Which of the following is appropriate for displaying data collected on the different brands of cars students at a major university drive?

- A) A Pareto chart
- B) A two-way classification table
- C) A histogram
- D) A scatter plot

Answer: A

Diff: 1

Keywords: Pareto diagram

Topics: Section 2.5

60) Northern Ireland is experiencing a baby boom, with the number of births rising for the fifth year in a row, according to a BBC News report. Which of the following is best for displaying this data?

- A) A Pareto chart
- B) A two-way classification table
- C) A histogram
- D) A scatter plot

Answer: D

Diff: 1

Keywords: time-series plot

Topics: Section 2.7

61) When studying the simultaneous responses to two categorical questions, we should set up a

- A) contingency table.
- B) frequency distribution table.
- C) cumulative percentage distribution table.
- D) histogram.

Answer: A

Diff: 1

Keywords: contingency table

Topics: Section 2.3

62) Data on 1,500 students' height were collected at a larger university in the East Coast. Which of the following is the best chart for presenting the information?

- A) A pie chart.
- B) A Pareto chart.
- C) A side-by-side bar chart.
- D) A histogram.

Answer: D

Diff: 1

Keywords: choice of chart, histogram

Topics: Section 2.6

63) Data on the number of part-time hours students at a public university worked in a week were collected. Which of the following is the best chart for presenting the information?

- A) A pie chart.
- B) A Pareto chart.
- C) A percentage table.
- D) A percentage polygon.

Answer: D

Diff: 1

Keywords: choice of chart, percentage polygon

Topics: Section 2.6

64) Data on the number of credit hours of 20,000 students at a public university enrolled in a Spring semester were collected. Which of the following is the best for presenting the information?

- A) A pie chart.
- B) A Pareto chart.
- C) A stem-and-leaf display.
- D) A contingency table.

Answer: C

Diff: 1

Keywords: choice of chart, stem-and-leaf

Topics: Section 2.6

65) A survey of 150 executives were asked what they think is the most common mistake candidates make during job interviews. Six different mistakes were given. Which of the following is the best for presenting the information?

- A) A bar chart.
- B) A histogram.
- C) A stem-and-leaf display.
- D) A contingency table.

Answer: A

Diff: 1

Keywords: choice of chart, bar chart

Topics: Section 2.5

66) You have collected information on the market share of 5 different search engines used by U.S. Internet users in May 2007. Which of the following is the best for presenting the information?

- A) A pie chart.
- B) A histogram.
- C) A stem-and-leaf display.
- D) A contingency table.

Answer: A

Diff: 1

Keywords: choice of chart, pie chart

Topics: Section 2.5

67) You have collected information on the consumption by the 15 largest coffee-consuming nations. Which of the following is the best for presenting the shares of the consumption?

- A) A pie chart.
- B) A Pareto chart.
- C) A side-by-side bar chart.
- D) A contingency table.

Answer: B

Explanation: B) Even though a pie chart can also be used, the Pareto chart is preferable for separating the "vital few" from the "trivial many."

Diff: 2

Keywords: choice of chart, Pareto chart

Topics: Section 2.5

68) You have collected data on the approximate retail price (in \$) and the energy cost per year (in \$) of 15 refrigerators. Which of the following is the best for presenting the data?

- A) A pie chart.
- B) A scatter chart.
- C) A side-by-side bar chart.
- D) A contingency table.

Answer: B

Diff: 1

Keywords: choice of chart, scatter chart

Topics: Section 2.7

69) You have collected data on the number of U.S. households actively using online banking and/or online bill payment from 1995 to 2007. Which of the following is the best for presenting the data?

- A) A pie chart.
- B) A stem-and-leaf display.
- C) A side-by-side bar chart.
- D) A time-series plot.

Answer: D

Diff: 1

Keywords: choice of chart, time-series plot

Topics: Section 2.7

70) You have collected data on the monthly seasonally adjusted civilian unemployment rate for the United States from 1998 to 2007. Which of the following is the best for presenting the data?

- A) A contingency table.
- B) A stem-and-leaf display.
- C) A time-series plot.
- D) A side-by-side bar chart.

Answer: C

Diff: 1

Keywords: choice of chart, time-series plot

Topics: Section 2.7

71) You have collected data on the annual average amount of cash rebate offered by 6 different brands of automobiles sold in the US in 2006 and in 2007. Which of the following is the best for presenting the data?

- A) A contingency table.
- B) A stem-and-leaf display.
- C) A time-series plot.
- D) A side-by-side bar chart.

Answer: D

Diff: 2

Keywords: choice of chart, side-by-side bar chart

Topics: Section 2.5

72) You have collected data on the responses to two questions asked in a survey of 40 college students majoring in business—What is your gender (Male = M; Female = F) and What is your major (Accountancy = A; Computer Information Systems = C; Marketing = M). Which of the following is the best for presenting the data?

- A) A contingency table.
- B) A stem-and-leaf display.
- C) A time-series plot.
- D) A Pareto chart.

Answer: A

Diff: 2

Keywords: choice of chart, contingency table

Topics: Section 2.3

TABLE 2-7

A sample of 200 students at a Big-Ten university was taken after the midterm to ask them whether they went bar hopping the weekend before the midterm or spent the weekend studying, and whether they did well or poorly on the midterm. The following table contains the result.

	Did Well in Midterm	Did Poorly in Midterm
Studying for Exam	80	20
Went Bar Hopping	30	70

73) Referring to Table 2-7, of those who went bar hopping the weekend before the midterm in the sample, \_\_\_\_\_ percent of them did well on the midterm.

- A) 15
- B) 27.27
- C) 30
- D) 55

Answer: C

Diff: 1

Keywords: contingency table, interpretation

Topics: Section 2.3

74) Referring to Table 2-7, of those who did well on the midterm in the sample, \_\_\_\_\_ percent of them went bar hopping the weekend before the midterm.

- A) 15
- B) 27.27
- C) 30
- D) 50

Answer: B

Diff: 1

Keywords: contingency table, interpretation

Topics: Section 2.3

75) Referring to Table 2-7, \_\_\_\_\_ percent of the students in the sample went bar hopping the weekend before the midterm and did well on the midterm.

- A) 15
- B) 27.27
- C) 30
- D) 50

Answer: A

Diff: 1

Keywords: contingency table, interpretation

Topics: Section 2.3

76) Referring to Table 2-7, \_\_\_\_\_ percent of the students in the sample spent the weekend studying and did well on the midterm.

- A) 40
- B) 50
- C) 72.72
- D) 80

Answer: A

Diff: 1

Keywords: contingency table, interpretation

Topics: Section 2.3

77) Referring to Table 2-7, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the students in the population to spend the weekend studying and do poorly on the midterm.

- A) 10
- B) 20
- C) 45
- D) 50

Answer: A

Diff: 1

Keywords: contingency table, interpretation

Topics: Section 2.3

78) Referring to Table 2-7, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of those who spent the weekend studying to do poorly on the midterm.

- A) 10
- B) 20
- C) 45
- D) 50

Answer: B

Diff: 2

Keywords: contingency table, interpretation

Topics: Section 2.3

79) Referring to Table 2-7, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of those who did poorly on the midterm to have spent the weekend studying.

- A) 10
- B) 22.22
- C) 45
- D) 50

Answer: B

Diff: 2

Keywords: contingency table, interpretation

Topics: Section 2.3

80) In a contingency table, the number of rows and columns

- A) must always be the same.
- B) must always be 2.
- C) must add to 100%.
- D) None of the above.

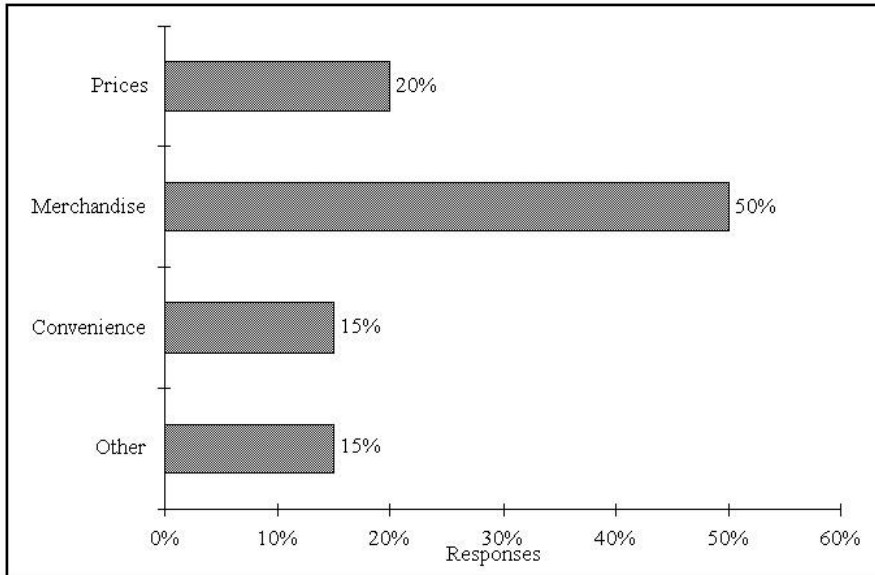
Answer: D

Diff: 2

Keywords: contingency table

Topics: Section 2.3

81) Retailers are always interested in determining why a customer selected their store to make a purchase. A sporting goods retailer conducted a customer survey to determine why its customers shopped at the store. The results are shown in the bar chart below. What proportion of the customers responded that they shopped at the store because of the merchandise or the convenience?



- A) 35%
- B) 50%
- C) 65%
- D) 85%

Answer: C

Diff: 1

Keywords: bar chart, interpretation

Topics: Section 2.5

82) An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. The number of claims a person has made in the last 3 years is an example of a \_\_\_\_\_ numerical variable.

Answer: discrete

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

83) An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. The distance a person drives in a year is an example of a \_\_\_\_\_ numerical variable.

Answer: continuous

Diff: 1

Keywords: continuous random variable, types of data

Topics: Section 2.1



84) An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. A person's age is an example of a \_\_\_\_\_ numerical variable.

Answer: continuous

Diff: 1

Keywords: continuous random variable, types of data

Topics: Section 2.1

85) An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. How long a person has been a licensed driver is an example of a \_\_\_\_\_ numerical variable.

Answer: continuous

Diff: 2

Keywords: continuous random variable, types of data

Topics: Section 2.1

86) An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. The number of tickets a person has received in the last 3 years is an example of a \_\_\_\_\_ numerical variable.

Answer: discrete

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

87) In purchasing an automobile, there are a number of variables to consider. The body style of the car (sedan, coupe, wagon, etc.) is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

88) In purchasing an automobile, there are a number of variables to consider. The classification of the car as a subcompact, compact, standard, or luxury size is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

89) In purchasing an automobile, there are a number of variables to consider. The color of the car is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

90) Most colleges admit students based on their achievements in a number of different areas. Whether a student has taken any advanced placement courses is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

91) Most colleges admit students based on their achievements in a number of different areas. The grade obtained in senior level English. (A, B, C, D, or F) is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 2

Keywords: categorical random variable, types of data

Topics: Section 2.1

92) Most colleges admit students based on their achievements in a number of different areas. The total SAT score achieved by a student is an example of a \_\_\_\_\_ numerical variable.

Answer: discrete

Diff: 2

Keywords: discrete random variable, types of data

Topics: Section 2.1

93) The Dean of Students conducted a survey on campus. The gender of the student is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

94) The Dean of Students conducted a survey on campus. Class designation (Freshman, Sophomore, Junior, Senior) is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

95) The Dean of Students conducted a survey on campus. Major area of study is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

96) The Dean of Students conducted a survey on campus. Average SAT score in mathematics is an example of a \_\_\_\_\_ numerical variable.

Answer: continuous

Diff: 1

Keywords: continuous random variable, types of data

Topics: Section 2.1

97) The Dean of Students conducted a survey on campus. Grade point average (GPA) is an example of a \_\_\_\_\_ numerical variable.

Answer: continuous

Diff: 1

Keywords: continuous random variable, types of data

Topics: Section 2.1

98) The Dean of Students conducted a survey on campus. Number of credits currently enrolled for is an example of a \_\_\_\_\_ numerical variable.

Answer: discrete

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

99) The Dean of Students conducted a survey on campus. Number of clubs, groups, teams, and organizations affiliated with on campus is an example of a \_\_\_\_\_ numerical variable.

Answer: discrete

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

100) A personal computer user survey was conducted. Computer brand primarily used is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

101) A personal computer user survey was conducted. Number of personal computers owned is an example of a \_\_\_\_\_ numerical variable.

Answer: discrete

Diff: 1

Keywords: discrete random variable, types of data

Topics: Section 2.1

102) A personal computer user survey was conducted. The number of years using a personal computer is an example of a \_\_\_\_\_ numerical variable.

Answer: continuous

Diff: 2

Keywords: continuous random variable, types of data

Topics: Section 2.1

103) A personal computer user survey was conducted. Hours of personal computer use per week is an example of a \_\_\_\_\_ numerical variable.

Answer: continuous

Diff: 2

Keywords: continuous random variable, types of data

Topics: Section 2.1

104) A personal computer user survey was conducted. Primary word processing package used is an example of a \_\_\_\_\_ variable.

Answer: categorical

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

105) A personal computer user survey was conducted. The number of computer magazine subscriptions is an example of a \_\_\_\_\_ numerical variable.

Answer: discrete

Diff: 2

Keywords: discrete random variable, types of data

Topics: Section 2.1

TABLE 2-8

The Stem-and-Leaf display below contains data on the number of months between the date a civil suit is filed and when the case is actually adjudicated for 50 cases heard in superior court.

<u>Stem</u>	<u>Leaves</u>
1 L	2 3 4 4 4
1 H	7 8 9 9
2 L	2 2 2 2 3 4
2 H	5 5 6 7 8 8 8 9
3 L	0 0 1 1 1 3
3 H	5 7 7 8
4 L	0 2 3 4
4 H	5 5 7 9
5 L	1 1 2 4
5 H	6 6
6 L	1 5
6 H	8

*Note:* 1L means the "low teens" — 10, 11, 12, 13, or 14; 1H means the "high teens" — 15, 16, 17, 18, or 19; 2L means the "low twenties" — 20, 21, 22, 23, or 24, etc.

106) Referring to Table 2-8, locate the first leaf, i.e., the lowest valued leaf with the lowest valued stem. This represents a wait of \_\_\_\_\_ months.

Answer: 12

Diff: 1

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

107) Referring to Table 2-8, the civil suit with the longest wait between when the suit was filed and when it was adjudicated had a wait of \_\_\_\_\_ months.

Answer: 68

Diff: 1

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

108) Referring to Table 2-8, the civil suit with the fourth shortest waiting time between when the suit was filed and when it was adjudicated had a wait of \_\_\_\_\_ months.

Answer: 14

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

109) Referring to Table 2-8, \_\_\_\_\_ percent of the cases were adjudicated within the first 2 years.

Answer: 30

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

110) Referring to Table 2-8, \_\_\_\_\_ percent of the cases were not adjudicated within the first 4 years.

Answer: 20

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

111) Referring to Table 2-8, if a frequency distribution with equal sized classes was made from this data, and the first class was "10 but less than 20," the frequency of that class would be \_\_\_\_\_.

Answer: 9

Diff: 1

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

112) Referring to Table 2-8, if a frequency distribution with equal sized classes was made from this data, and the first class was "10 but less than 20," the relative frequency of the third class would be \_\_\_\_\_.

Answer: 0.20 or 20% or 10/50

Diff: 2

Keywords: stem-and-leaf display, relative frequency distribution

Topics: Section 2.6

113) Referring to Table 2-8, if a frequency distribution with equal sized classes was made from this data, and the first class was "10 but less than 20," the cumulative percentage of the second class would be \_\_\_\_\_.

Answer: 46% or 0.46 or 23/50

Diff: 2

Keywords: stem-and-leaf display, cumulative percentage distribution

Topics: Section 2.6

TABLE 2-9

The Stem-and-Leaf display represents the number of times in a year that a random sample of 100 "lifetime" members of a health club actually visited the facility.

Stem	Leaves
0	012222233333344566666667789999
1	1111222234444455669999
2	00011223455556889
3	0000446799
4	011345567
5	0077
6	8
7	67
8	3
9	0247

114) Referring to Table 2-9, the person who has the largest leaf associated with the smallest stem visited the facility \_\_\_\_\_ times.

Answer: 9

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

115) Referring to Table 2-9, the person who visited the health club less than anyone else in the sample visited the facility \_\_\_\_\_ times.

Answer: 0 or no

Diff: 1

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

116) Referring to Table 2-9, the person who visited the health club more than anyone else in the sample visited the facility \_\_\_\_\_ times.

Answer: 97

Diff: 1

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

117) Referring to Table 2-9, \_\_\_\_\_ of the 100 members visited the health club at least 52 times in a year.

Answer: 10

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

118) Referring to Table 2-9, \_\_\_\_\_ of the 100 members visited the health club no more than 12 times in a year.

Answer: 38

Diff: 2

Keywords: stem-and-leaf display, interpretation

Topics: Section 2.6

119) Referring to Table 2-9, if a frequency distribution with equal sized classes was made from this data, and the first class was "0 but less than 10," the frequency of the fifth class would be \_\_\_\_\_.

Answer: 9

Diff: 2

Keywords: stem-and-leaf display, frequency distribution

Topics: Section 2.6

120) Referring to Table 2-9, if a frequency distribution with equal sized classes was made from this data, and the first class was "0 but less than 10," the relative frequency of the last class would be \_\_\_\_\_.

Answer: 4% or 0.04 or 4/100

Diff: 2

Keywords: stem-and-leaf display, relative frequency distribution

Topics: Section 2.6

121) Referring to Table 2-9, if a frequency distribution with equal sized classes was made from this data, and the first class was "0 but less than 10," the cumulative percentage of the next-to-last class would be \_\_\_\_\_.

Answer: 96% or 0.96 or 96/100

Diff: 2

Keywords: stem-and-leaf display, cumulative percentage distribution

Topics: Section 2.4 & Section 2.6

122) Referring to Table 2-9, if a frequency distribution with equal sized classes was made from this data, and the first class was "0 but less than 10," the class midpoint of the third class would be \_\_\_\_\_.

Answer: 25 or  $(20+30)/2$

Diff: 2

Keywords: stem-and-leaf display, class midpoint

Topics: Section 2.6



TABLE 2-10

The frequency distribution below represents the rents of 250 randomly selected federally subsidized apartments in Minneapolis.

<u>Rent in \$</u>	<u>Frequency</u>
300 but less than 400	113
400 but less than 500	85
500 but less than 600	32
600 but less than 700	16
700 but less than 800	4

123) Referring to Table 2-10, \_\_\_\_\_ apartments rented for at least \$400 but less than \$600.

Answer: 117

Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

124) Referring to Table 2-10, \_\_\_\_\_ percent of the apartments rented for no less than \$600.

Answer: 8% or 20/250

Diff: 1

Keywords: frequency distribution, cumulative percentage distribution

Topics: Section 2.4

125) Referring to Table 2-10, \_\_\_\_\_ percent of the apartments rented for at least \$500.

Answer: 20.8% or 52/250

Diff: 2

Keywords: frequency distribution, cumulative percentage distribution

Topics: Section 2.4

126) Referring to Table 2-10, the class midpoint of the second class is \_\_\_\_\_.

Answer: 450

Diff: 1

Keywords: frequency distribution, class midpoint

Topics: Section 2.4, Section 2.5, & Section 2.6

127) Referring to Table 2-10, the relative frequency of the second class is \_\_\_\_\_.

Answer: 85/250 or 17/50 or 34% or 0.34

Diff: 1

Keywords: frequency distribution, relative frequency distribution

Topics: Section 2.4

128) Referring to Table 2-10, the percentage of apartments renting for less than \$600 is \_\_\_\_\_.

Answer: 230/250 or 23/25 or 92% or 0.92

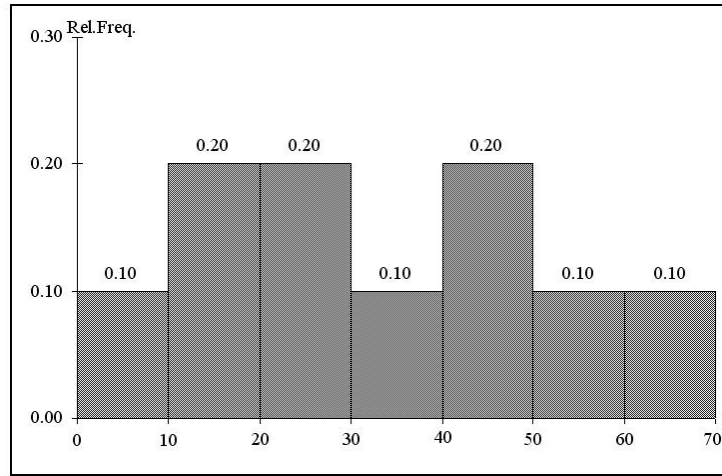
Diff: 2

Keywords: frequency distribution, cumulative percentage distribution

Topics: Section 2.4

TABLE 2-11

The histogram below represents scores achieved by 200 job applicants on a personality profile.



129) Referring to the histogram from Table 2-11, \_\_\_\_\_ percent of the job applicants scored between 10 and 20.

Answer: 20%

Diff: 1

Keywords: histogram, percentage distribution

Topics: Section 2.4 & Section 2.6

130) Referring to the histogram from Table 2-11, \_\_\_\_\_ percent of the job applicants scored below 50.

Answer: 80%

Diff: 2

Keywords: histogram, percentage distribution

Topics: Section 2.4 & Section 2.6

131) Referring to the histogram from Table 2-11, the number of job applicants who scored between 30 and 60 is \_\_\_\_\_.

Answer: 80

Diff: 2

Keywords: histogram

Topics: Section 2.6

132) Referring to the histogram from Table 2-11, the number of job applicants who scored 50 or above is \_\_\_\_\_.

Answer: 40

Diff: 2

Keywords: histogram

Topics: Section 2.6

133) Referring to the histogram from Table 2-11, 90% of the job applicants scored above or equal to \_\_\_\_\_.

Answer: 10

Diff: 2

Keywords: histogram, cumulative percentage distribution

Topics: Section 2.4 & Section 2.6

134) Referring to the histogram from Table 2-11, half of the job applicants scored below \_\_\_\_\_.

Answer: 30

Diff: 2

Keywords: histogram, cumulative percentage distribution

Topics: Section 2.4 & Section 2.6

135) Referring to the histogram from Table 2-11, \_\_\_\_\_ percent of the applicants scored below 20 or at least 50.

Answer: 50%

Diff: 2

Keywords: histogram, cumulative percentage distribution

Topics: Section 2.4 & Section 2.6

136) Referring to the histogram from Table 2-11, \_\_\_\_\_ percent of the applicants scored between 20 and 50.

Answer: 50%

Diff: 2

Keywords: histogram, cumulative percentage distribution

Topics: Section 2.4 & Section 2.6

#### TABLE 2-12

The ordered array below resulted from taking a sample of 25 batches of 500 computer chips and determining how many in each batch were defective.

Defects

1	2	4	4	5	5	6	7	9	9	12	12	15
17	20	21	23	23	25	26	27	27	28	29	29	

137) Referring to Table 2-12, if a frequency distribution for the defects data is constructed, using "0 but less than 5" as the first class, the frequency of the "20 but less than 25" class would be \_\_\_\_\_.

Answer: 4

Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

138) Referring to Table 2-12, if a frequency distribution for the defects data is constructed, using "0 but less than 5" as the first class, the relative frequency of the "15 but less than 20" class would be \_\_\_\_\_.

Answer: 0.08 or 8% or 2/25

Diff: 2

Keywords: relative frequency distribution

Topics: Section 2.4

139) Referring to Table 2-12, construct a frequency distribution for the defects data, using "0 but less than 5" as the first class.

Answer: Defects Frequency

0 but less than 5	4
5 but less than 10	6
10 but less than 15	2
15 but less than 20	2
20 but less than 25	4
25 but less than 30	7

Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

140) Referring to Table 2-12, construct a relative frequency or percentage distribution for the defects data, using "0 but less than 5" as the first class.

Answer: Defects Percentage

0 but less than 5	16
5 but less than 10	24
10 but less than 15	8
15 but less than 20	8
20 but less than 25	16
25 but less than 30	28

Diff: 2

Keywords: relative frequency distribution, percentage distribution

Topics: Section 2.4

141) Referring to Table 2-12, construct a cumulative percentage distribution for the defects data if the corresponding frequency distribution uses "0 but less than 5" as the first class.

Answer: DefectsCumPct

0	0
5	16
10	40
15	48
20	56
25	72
30	100

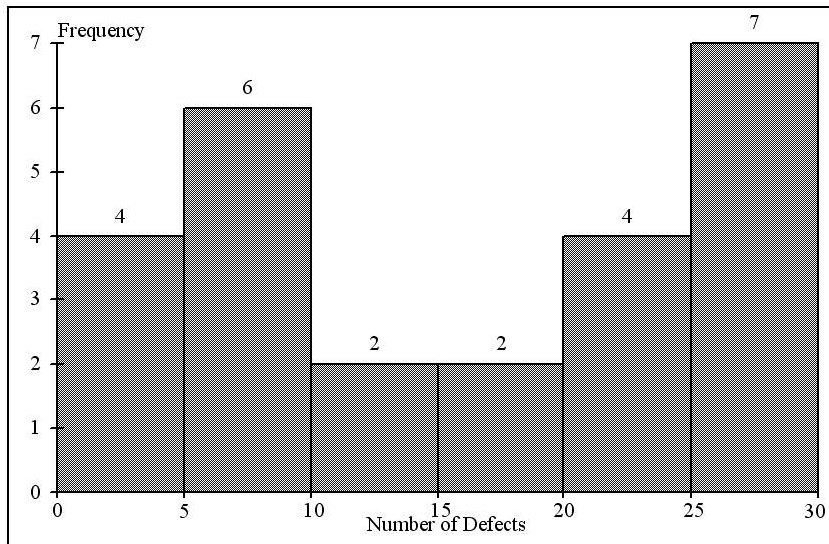
Diff: 2

Keywords: cumulative percentage distribution

Topics: Section 2.4

142) Referring to Table 2-12, construct a histogram for the defects data, using "0 but less than 5" as the first class.

Answer:



Diff: 1

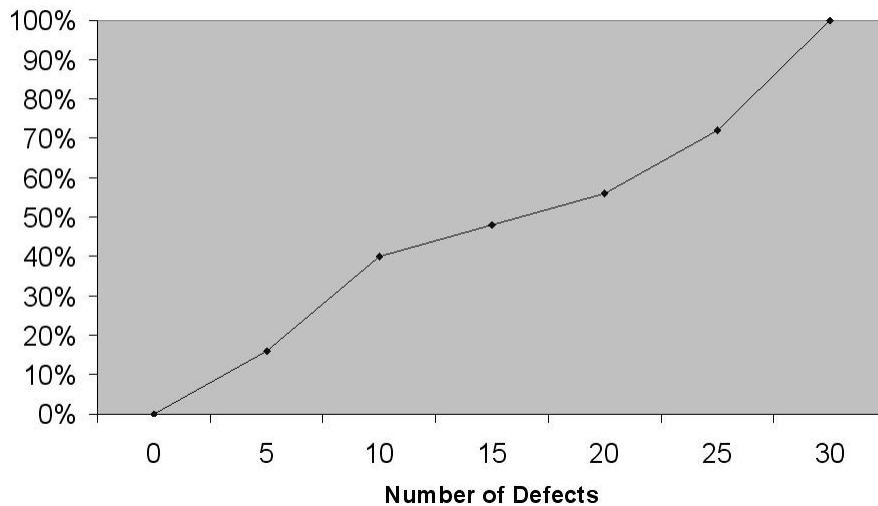
Keywords: histogram, frequency distribution

Topics: Section 2.4 & Section 2.6

143) Referring to Table 2-12, construct a cumulative percentage polygon for the defects data if the corresponding frequency distribution uses "0 but less than 5" as the first class.

Answer:

**Cumulative Percentage Polygon**



Diff: 2

Keywords: cumulative percentage polygon

Topics: Section 2.6

144) The point halfway between the boundaries of each class interval in a grouped frequency distribution is called the \_\_\_\_\_.

Answer: class midpoint

Diff: 1

Keywords: cumulative percentage polygon, frequency distribution

Topics: Section 2.4 & Section 2.6

145) A \_\_\_\_\_ is a vertical bar chart in which the rectangular bars are constructed at the boundaries of each class interval.

Answer: histogram

Diff: 1

Keywords: histogram

Topics: Section 2.6

146) It is essential that each class grouping or interval in a frequency distribution be \_\_\_\_\_.

Answer: non-overlapping and of equal width

Diff: 2

Keywords: frequency distribution, class interval

Topics: Section 2.4

147) In order to compare one large batch of numerical data to another, a \_\_\_\_\_ distribution must be developed from the frequency distribution.

Answer: relative frequency or percentage

Diff: 1

Keywords: relative frequency distribution, percentage distribution

Topics: Section 2.4

148) When comparing two or more large batches of numerical data, the distributions being developed should use the same \_\_\_\_\_.

Answer: class boundaries.

Diff: 1

Keywords: class boundaries

Topics: Section 2.4

149) The width of each class grouping or interval in a frequency distribution should be \_\_\_\_\_.

Answer: the same or equal

Diff: 1

Keywords: class interval, frequency distribution

Topics: Section 2.4

150) In constructing a polygon, each class grouping is represented by its \_\_\_\_\_ and then these are consecutively connected to one another.

Answer: midpoint

Diff: 1

Keywords: polygon, class interval, midpoint

Topics: Section 2.4, Section 2.5, & Section 2.6

151) A \_\_\_\_\_ is a summary table in which numerical data are tallied into class intervals or categories.

Answer: frequency distribution

Diff: 1

Keywords: frequency distribution, class interval

Topics: Section 2.4

152) True or False: The possible responses to the question "How long have you been living at your current residence?" are values from a continuous variable.

Answer: TRUE

Diff: 2

Keywords: continuous random variable, types of data

Topics: Section 2.1

153) True or False: The possible responses to the question "How many times in the past three months have you visited a city park?" are values from a discrete variable.

Answer: TRUE

Diff: 2

Keywords: discrete random variable, types of data

Topics: Section 2.1

154) True or False: A continuous variable may take on any value within its relevant range even though the measurement device may not be precise enough to record it.

Answer: TRUE

Diff: 2

Keywords: continuous random variable, types of data

Topics: Section 2.1

155) True or False: Faculty rank (professor to lecturer) is an example of discrete numerical data.

Answer: FALSE

Diff: 1

Keywords: categorical random variable, types of data

Topics: Section 2.1

156) True or False: Student grades (A to F) are an example of continuous numerical data.

Answer: FALSE

Diff: 2

Keywords: categorical random variable, types of data

Topics: Section 2.1

157) True or False: The amount of coffee consumed by an individual in a day is an example of a discrete numerical variable.

Answer: FALSE

Diff: 2

Keywords: continuous random variable, types of data

Topics: Section 2.1

158) True or False: The answer to the question "What is your favorite color?" is an example of an ordinal scaled variable.

Answer: FALSE

Diff: 1

Keywords: nominal scale

Topics: Section 2.1

159) True or False: The answer to the question "How do you rate the quality of your business statistics course" is an example of an ordinal scaled variable.

Answer: TRUE

Diff: 1

Keywords: ordinal scale

Topics: Section 2.1

160) True or False: The answer to the question "How many hours on average do you spend watching TV every week?" is an example of a ratio scaled variable.

Answer: TRUE

Diff: 1

Keywords: ratio scale

Topics: Section 2.1

161) True or False: The answer to the question "What is your sleeping bag temperature rating?" is an example of a ratio scaled variable.

Answer: FALSE

Diff: 1

Keywords: interval scale

Topics: Section 2.1

162) True or False: The type of TV one owns is an example of an ordinal scaled variable.

Answer: FALSE

Diff: 1

Keywords: nominal scale, ordinal scale

Topics: Section 2.1

163) True or False: The type of TV one owns is an example of a numerical variable.

Answer: FALSE

Diff: 1

Keywords: categorical random variable

Topics: Section 2.1

164) True or False: Whether the university is private or public is an example of a nominal scaled variable.

Answer: TRUE

Diff: 1

Keywords: nominal scale

Topics: Section 2.1



165) True or False: Whether the university is private or public is an example of a categorical variable.

Answer: TRUE

Diff: 1

Keywords: categorical random variable

Topics: Section 2.1

166) True or False: Marital status is an example of an ordinal scaled variable.

Answer: FALSE

Diff: 1

Keywords: nominal scale, ordinal scale

Topics: Section 2.1

167) True or False: Marital status is an example of a numerical variable.

Answer: FALSE

Diff: 1

Keywords: categorical random variable

Topics: Section 2.1

168) True or False: The grade level (K-12) of a student is an example of a nominal scaled variable.

Answer: FALSE

Diff: 1

Keywords: nominal scale, ordinal scale

Topics: Section 2.1

169) True or False: The grade level (K-12) of a student is an example of a numerical variable.

Answer: FALSE

Diff: 1

Keywords: categorical random variable

Topics: Section 2.1

170) True or False: The level of satisfaction ("Very unsatisfied", "Fairly unsatisfied", "Fairly satisfied", and "Very satisfied") in a class is an example of an ordinal scaled variable.

Answer: TRUE

Diff: 1

Keywords: ordinal scale

Topics: Section 2.1

171) True or False: The level of satisfaction ("Very unsatisfied", "Fairly unsatisfied", "Fairly satisfied", and "Very satisfied") in a class is an example of a categorical variable.

Answer: TRUE

Diff: 1

Keywords: categorical random variable

Topics: Section 2.1

172) True or False: The quality ("terrible", "poor", "fair", "acceptable", "very good" and "excellent") of a day care center is an example of a nominal scaled variable.

Answer: FALSE

Diff: 1

Keywords: nominal scale, ordinal scale

Topics: Section 2.1

173) True or False: The quality ("terrible", "poor", "fair", "acceptable", "very good" and "excellent") of a day care center is an example of a numerical variable.

Answer: FALSE

Diff: 1

Keywords: categorical random variable

Topics: Section 2.1

174) True or False: The amount of alcohol consumed by a person per week will be measured on an interval scale.

Answer: FALSE

Diff: 1

Keywords: interval scale, ratio scale

Topics: Section 2.1

175) True or False: The amount of alcohol consumed by a person per week is an example of a continuous variable.

Answer: TRUE

Diff: 1

Keywords: continuous random variable

Topics: Section 2.1

176) True or False: The number of defective apples in a single box will be measured on an interval scale.

Answer: FALSE

Diff: 1

Keywords: interval scale, ratio scale

Topics: Section 2.1

177) True or False: The number of defective apples in a single box is an example of a continuous variable.

Answer: FALSE

Diff: 1

Keywords: discrete random variable, continuous random variable

Topics: Section 2.1

178) True or False: The amount of calories contained in a pack of 12-ounce cheese will be measured on a ratio scale.

Answer: TRUE

Diff: 1

Keywords: ratio scale

Topics: Section 2.1

179) True or False: The amount of calories contained in a pack of 12-ounce cheese is an example of a discrete variable.

Answer: FALSE

Diff: 1

Keywords: discrete random variable, continuous random variable

Topics: Section 2.1

180) True or False: The amount of time a student spent studying for an exam will be measured on a ratio scale.

Answer: TRUE

Diff: 1

Keywords: ratio scale

Topics: Section 2.1

181) True or False: The amount of time a student spent studying for an exam is an example of a continuous variable.

Answer: TRUE

Diff: 1

Keywords: continuous random variable

Topics: Section 2.1

182) True or False: The date when a production line in a factory is out-of-control will be measured with a ratio scale.

Answer: FALSE

Diff: 1

Keywords: interval scale, ratio scale

Topics: Section 2.1

183) True or False: In general, grouped frequency distributions should have between 5 and 15 class intervals.

Answer: TRUE

Diff: 1

Keywords: frequency distribution, number of classes

Topics: Section 2.4 & Section 2.6

184) True or False: The sum of relative frequencies in a distribution always equals 1.

Answer: TRUE

Diff: 1

Keywords: relative frequency

Topics: Section 2.4

185) True or False: The sum of cumulative frequencies in a distribution always equals 1.

Answer: FALSE

Diff: 2

Keywords: cumulative frequency distribution

Topics: Section 2.4

186) True or False: In graphing bivariate categorical data, the side-by-side bar chart is best suited when primary interest is in demonstrating differences in magnitude rather than differences in percentages.

Answer: TRUE

Diff: 2

Keywords: side-by-side chart

Topics: Section 2.5

187) True or False: When constructing a frequency distribution, classes should be selected in such a way that they are of equal width.

Answer: TRUE

Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

188) True or False: A research analyst was directed to arrange raw data collected on the yield of wheat, ranging from 40 to 93 bushels per acre, in a frequency distribution. He should choose 30 as the class interval width.

Answer: FALSE

Diff: 1

Keywords: frequency distribution, class interval

Topics: Section 2.4

189) True or False: If the values of the seventh and eighth class in a cumulative frequency distribution are the same, we know that there are no observations in the eighth class.

Answer: TRUE

Diff: 2

Keywords: cumulative frequency distribution

Topics: Section 2.4

190) True or False: One of the advantages of a pie chart is that it clearly shows that the total of all the categories of the pie adds to 100%.

Answer: TRUE

Diff: 1

Keywords: pie chart

Topics: Section 2.5

191) True or False: The larger the number of observations in a numerical data set, the larger the number of class intervals needed for a grouped frequency distribution.

Answer: TRUE

Diff: 1

Keywords: class interval, frequency distribution

Topics: Section 2.4

192) True or False: Determining the class boundaries of a frequency distribution is highly subjective.

Answer: TRUE

Diff: 1

Keywords: class boundaries, frequency distribution

Topics: Section 2.4

193) True or False: The original data values cannot be assessed once they are grouped into a frequency distribution table.

Answer: TRUE

Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

194) True or False: The percentage distribution cannot be constructed from the frequency distribution directly.

Answer: FALSE

Diff: 1

Keywords: percentage distribution, frequency distribution

Topics: Section 2.4

195) True or False: The stem-and-leaf display is often superior to the frequency distribution in that it maintains the original values for further analysis.

Answer: TRUE

Diff: 1

Keywords: stem-and-leaf display, frequency distribution

Topics: Section 2.4 & Section 2.6

196) True or False: The relative frequency is the frequency in each class divided by the total number of observations.

Answer: TRUE

Diff: 1

Keywords: relative frequency distribution

Topics: Section 2.4

197) True or False: Ogives are plotted at the midpoints of the class groupings.

Answer: FALSE

Diff: 1

Keywords: ogives, midpoint

Topics: Section 2.4, Section 2.5, & Section 2.6

198) True or False: Percentage polygons are plotted at the boundaries of the class groupings.

Answer: FALSE

Diff: 1

Keywords: percentage polygons

Topics: Section 2.6

199) True or False: The main principle behind the Pareto diagram is the ability to track the "vital few" from the "trivial many."

Answer: TRUE

Diff: 1

Keywords: Pareto chart

Topics: Section 2.5

200) True or False: A histogram can have gaps between the bars, whereas bar charts cannot have gaps.

Answer: FALSE

Diff: 1

Keywords: histogram, bar chart

Topics: Section 2.5 & Section 2.6

201) True or False: Histograms are used for numerical data while bar charts are suitable for categorical data.

Answer: TRUE

Diff: 1

Keywords: histogram, bar chart

Topics: Section 2.5 & Section 2.6

202) True or False: A Wal-Mart store in a small town monitors customer complaints and organizes these complaints into six distinct categories. Over the past year, the company has received 534 complaints. One possible graphical method for representing these data would be a Pareto chart.

Answer: TRUE

Diff: 2

Keywords: Pareto chart

Topics: Section 2.5

203) True or False: Apple Computer, Inc. collected information on the age of their customers. The youngest customer was 12 and the oldest was 72. To study the distribution of the age among its customers, it can use a Pareto chart.

Answer: FALSE

Diff: 2

Keywords: Pareto chart

Topics: Section 2.5

204) True or False: Apple Computer, Inc. collected information on the age of their customers. The youngest customer was 12 and the oldest was 72. To study the distribution of the age among its customers, it is best to use a pie chart.

Answer: FALSE

Diff: 2

Keywords: pie chart

Topics: Section 2.5

205) True or False: Apple Computer, Inc. collected information on the age of their customers. The youngest customer was 12 and the oldest was 72. To study the distribution of the age among its customers, it can use a percentage polygon.

Answer: TRUE

Diff: 2

Keywords: percentage polygon

Topics: Section 2.6

206) True or False: Apple Computer, Inc. collected information on the age of their customers. The youngest customer was 12 and the oldest was 72. To study the percentage of their customers who are below a certain age, it can use an ogive.

Answer: TRUE

Diff: 2

Keywords: ogive

Topics: Section 2.6

207) True or False: If you wish to construct a graph of a relative frequency distribution, you would most likely construct an ogive first.

Answer: FALSE

Diff: 2

Keywords: ogive

Topics: Section 2.6

208) True or False: An ogive is a cumulative percentage polygon.

Answer: TRUE

Diff: 1

Keywords: ogive, cumulative percentage polygon

Topics: Section 2.6

209) True or False: A side-by-side chart is two histograms plotted side-by-side.

Answer: FALSE

Diff: 2

Keywords: side-by-side chart

Topics: Section 2.5

210) True or False: A good choice for the number of class groups to use in constructing frequency distribution is to have at least 5 but no more than 15 class groups.

Answer: TRUE

Diff: 1

Keywords: number of classes

Topics: Section 2.4 & Section 2.6

211) True or False: In general, a frequency distribution should have at least 8 class groups but no more than 20.

Answer: FALSE

Diff: 1

Keywords: number of classes

Topics: Section 2.4 & Section 2.6

212) True or False: To determine the width of class interval, divide the number of class groups by the range of the data.

Answer: FALSE

Diff: 1

Keywords: class interval

Topics: Section 2.4

213) True or False: The percentage polygon is formed by having the lower boundary of each class represent the data in that class and then connecting the sequence of lower boundaries at their respective class percentages.

Answer: FALSE

Diff: 1

Keywords: percentage polygon

Topics: Section 2.6

214) True or False: A polygon can be constructed from a bar chart.

Answer: FALSE

Diff: 2

Keywords: polygon

Topics: Section 2.6

215) To evaluate two categorical variables at the same time, a \_\_\_\_\_ could be developed.

Answer: contingency or cross-classification table or side-by-side bar chart

Diff: 1

Keywords: contingency table, cross-classification table

Topics: Section 2.3

216) Relationships in a contingency table can be examined more fully if the frequencies are converted into \_\_\_\_\_.

Answer: percentages or proportions

Diff: 1

Keywords: contingency table

Topics: Section 2.3



TABLE 2-13

The table below contains the opinions of a sample of 200 people broken down by gender about the latest congressional plan to eliminate anti-trust exemptions for professional baseball.

	<u>For</u>	<u>Neutral</u>	<u>Against</u>	<u>Totals</u>
<b>Female</b>	38	54	12	104
<b>Male</b>	12	36	48	96
<b>Totals</b>	50	90	60	200

217) Referring to Table 2-13, construct a table of row percentages.

Answer:

	<u>For</u>	<u>Neutral</u>	<u>Against</u>	<u>Totals</u>
Female	36.54	51.92	11.54	100.00
Male	12.50	37.50	50.00	100.00
Totals	25.00	45.00	30.00	100.00

Diff: 1

Keywords: row percentages

Topics: Section 2.3

218) Referring to Table 2-13, construct a table of column percentages.

Answer:

	<u>For</u>	<u>Neutral</u>	<u>Against</u>	<u>Totals</u>
Female	76.00	60.00	20.00	52.00
Male	24.00	40.00	80.00	48.00
Totals	100.00	100.00	100.00	100.00

Diff: 1

Keywords: column percentages

Topics: Section 2.3

219) Referring to Table 2-13, construct a table of total percentages.

Answer:

	<u>For</u>	<u>Neutral</u>	<u>Against</u>	<u>Totals</u>
Female	19.00	27.00	6.00	52.00
Male	6.00	18.00	24.00	48.00
Totals	25.00	45.00	30.00	100.00

Diff: 1

Keywords: total percentages

Topics: Section 2.3

220) Referring to Table 2-13, of those for the plan in the sample, \_\_\_\_\_ percent were females.

Answer: 76%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

221) Referring to Table 2-13, of those neutral in the sample, \_\_\_\_\_ percent were males.

Answer: 40%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

222) Referring to Table 2-13, of the males in the sample, \_\_\_\_\_ percent were for the plan.

Answer: 12.50%

Diff: 2

Keywords: contingency table

Topics: Section 2.3

223) Referring to Table 2-13, of the females in the sample, \_\_\_\_\_ percent were against the plan.

Answer: 11.54%

Diff: 2

Keywords: contingency table

Topics: Section 2.3

224) Referring to Table 2-13, of the females in the sample, \_\_\_\_\_ percent were either neutral or against the plan.

Answer: 63.46% or (51.92+11.54)%

Diff: 2

Keywords: contingency table

Topics: Section 2.3

225) Referring to Table 2-13, \_\_\_\_\_ percent of the 200 were females who were against the plan.

Answer: 6%

Diff: 2

Keywords: contingency table

Topics: Section 2.3

226) Referring to Table 2-13, \_\_\_\_\_ percent of the 200 were males who were neutral.

Answer: 18%

Diff: 2

Keywords: contingency table

Topics: Section 2.3

227) Referring to Table 2-13, \_\_\_\_\_ percent of the 200 were females who were either neutral or against the plan.

Answer: 33%

Diff: 3

Keywords: contingency table

Topics: Section 2.3

228) Referring to Table 2-13, \_\_\_\_\_ percent of the 200 were males who were not against the plan.

Answer: 24%

Diff: 3

Keywords: contingency table

Topics: Section 2.3

229) Referring to Table 2-13, \_\_\_\_\_ percent of the 200 were not neutral.

Answer: 55%

Diff: 3

Keywords: contingency table, row percentages

Topics: Section 2.3

230) Referring to Table 2-13, \_\_\_\_\_ percent of the 200 were against the plan.

Answer: 30%

Diff: 2

Keywords: contingency table, row percentages

Topics: Section 2.3

231) Referring to Table 2-13, \_\_\_\_\_ percent of the 200 were males.

Answer: 48%

Diff: 1

Keywords: contingency table, column percentages

Topics: Section 2.3

232) Referring to Table 2-13, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the population will be for the plan.

Answer: 25%

Diff: 2

Keywords: contingency table, row percentages

Topics: Section 2.3

233) Referring to Table 2-13, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the population will be males.

Answer: 48%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

234) Referring to Table 2-13, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of those for the plan in the population will be males.

Answer: 24%

Diff: 2

Keywords: contingency table

Topics: Section 2.3

235) Referring to Table 2-13, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the males in the population will be against the plan.

Answer: 50%

Diff: 2

Keywords: contingency table

Topics: Section 2.3

236) Referring to Table 2-13, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the females in the population will not be against the plan.

Answer: 88.46% or (36.54+51.92)

Diff: 2

Keywords: contingency table

Topics: Section 2.3

#### TABLE 2-14

Given below is the stem-and-leaf display representing the amount of detergent used in gallons (with leaves in 10ths of gallons) in a month by 25 drive-through car wash operations in Phoenix.

```
9 | 147
10 | 02238
11 | 135566777
12 | 223489
13 | 02
```

237) Referring to Table 2-14, if a frequency distribution for the amount of detergent used is constructed, using "9.0 but less than 10.0 gallons" as the first class, the frequency of the "11.0 but less than 12.0 gallons" class would be \_\_\_\_\_.

Answer: 9

Diff: 1

Keywords: frequency distribution

Topics: Section 2.4

238) Referring to Table 2-14, if a percentage histogram for the detergent data is constructed, using "9.0 but less than 10.0 gallons" as the first class, the percentage of drive-through car wash operations that use "12.0 but less than 13.0 gallons" of detergent would be \_\_\_\_\_.

Answer: 24%

Diff: 2

Keywords: relative frequency distribution, percentage distribution

Topics: Section 2.4 & Section 2.6

239) Referring to Table 2-14, if a percentage histogram for the detergent data is constructed, using "9.0 but less than 10.0 gallons" as the first class, what percentage of drive-through car wash operations use less than 12 gallons of detergent in a month?

Answer: 68%

Diff: 1

Keywords: percentage distribution, cumulative relative frequency

Topics: Section 2.4

240) Referring to Table 2-14, if a relative frequency or percentage distribution for the detergent data is constructed, using "9.0 but less than 10.0 gallons" as the first class, what percentage of drive-through car wash operations use at least 10 gallons of detergent in a month?

Answer: 88%

Diff: 1

Keywords: relative frequency distribution, percentage distribution

Topics: Section 2.4

241) Referring to Table 2-14, if a relative frequency or percentage distribution for the detergent data is constructed, using "9.0 but less than 10.0 gallons" as the first class, what percentage of drive-through car wash operations use at least 10 gallons but less than 13 gallons of detergent in a month?

Answer: 80%

Diff: 1

Keywords: relative frequency distribution, percentage distribution

Topics: Section 2.4

242) Referring to Table 2-14, construct a frequency distribution for the detergent data, using "9.0 but less than 10.0 gallons" as the first class.

Answer:

Purchases (gals)	Frequency
9.0 but less than 10.0	3
10.0 but less than 11.0	5
11.0 but less than 12.0	9
12.0 but less than 13.0	6
13.0 but less than 14.0	2

Diff: 2

Keywords: frequency distribution

Topics: Section 2.4

243) Referring to Table 2-14, construct a relative frequency or percentage distribution for the detergent data, using "9.0 but less than 10.0" as the first class.

Answer:

Purchases (gals)	Percentage
9.0 but less than 10.0	12%
10.0 but less than 11.0	20
11.0 but less than 12.0	36
12.0 but less than 13.0	24
13.0 but less than 14.0	8

Diff: 2

Keywords: relative frequency distribution, percentage distribution

Topics: Section 2.4

244) Referring to Table 2-14, construct a cumulative percentage distribution for the detergent data if the corresponding frequency distribution uses "9.0 but less than 10.0" as the first class.  
 Answer:

Purchases (gals)	Frequency	Percentage
9.0 but less than 10.0	3	12
10.0 but less than 11.0	8	32
11.0 but less than 12.0	17	68
12.0 but less than 13.0	23	92
13.0 but less than 14.0	25	100

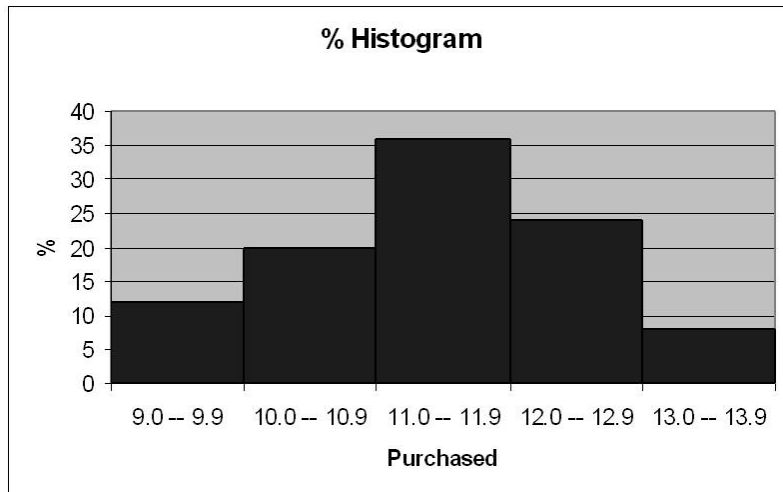
Diff: 2

Keywords: cumulative percentage distribution

Topics: Section 2.4

245) Referring to Table 2-14, construct a percentage histogram for the detergent data, using "9.0 but less than 10.0" as the first class.

Answer:



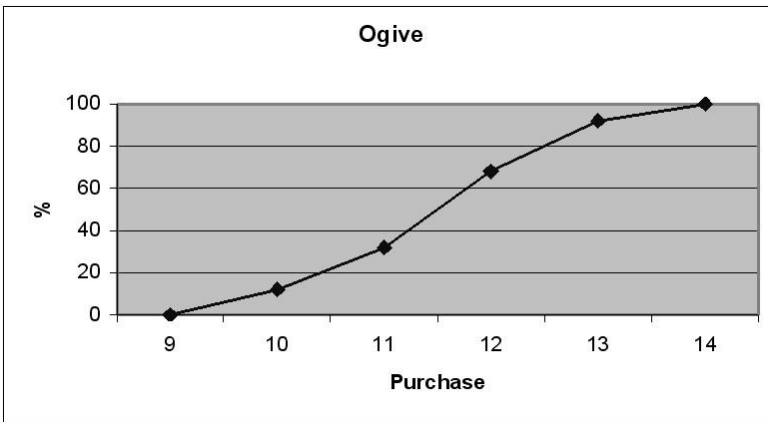
Diff: 2

Keywords: histogram, frequency distribution

Topics: Section 2.4 & Section 2.6

246) Referring to Table 2-14, construct a cumulative percentage polygon for the detergent data if the corresponding frequency distribution uses "9.0 but less than 10.0" as the first class.

Answer:



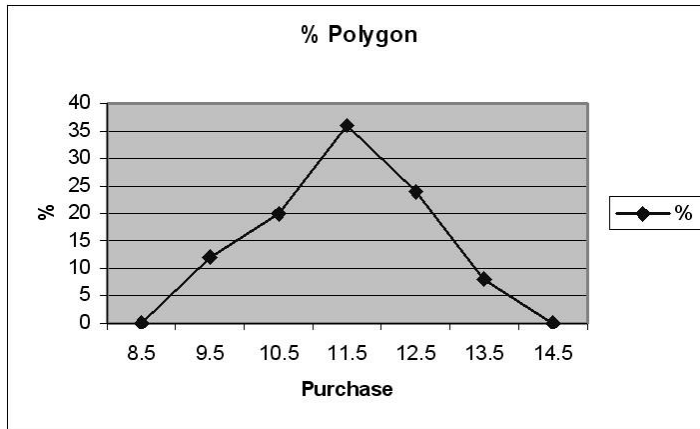
Diff: 2

Keywords: cumulative percentage polygon

Topics: Section 2.6

247) Referring to Table 2-14, construct a percentage polygon for the detergent data if the corresponding frequency distribution uses "9.0 but less than 10.0" as the first class.

Answer:



Diff: 2

Keywords: percentage distribution

Topics: Section 2.6

TABLE 2-15

The table below contains the number of people who own a portable DVD player in a sample of 600 broken down by gender.

<b>Own a Portable</b>		
<b>DVD Player</b>	<b>Male</b>	<b>Female</b>
<b>Yes</b>	96	40
<b>No</b>	224	240

248) Referring to Table 2-15, construct a table of row percentages.

Answer:

<b>Own</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Yes</b>	70.59%	29.41%	100.00%
<b>No</b>	48.28%	51.72%	100.00%
<b>Total</b>	53.33%	46.67%	100.00%

Diff: 1

Keywords: row percentages

Topics: Section 2.3

249) Referring to Table 2-15, construct a table of column percentages.

Answer:

<b>Own</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Yes</b>	30.00%	14.29%	22.67%
<b>No</b>	70.00%	85.71%	77.33%
<b>Total</b>	100.00%	100.00%	100.00%

Diff: 1

Keywords: column percentages

Topics: Section 2.3

250) Referring to Table 2-15, construct a table of total percentages.

Answer:

<b>Own</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Yes</b>	16.00%	6.67%	22.67%
<b>No</b>	37.33%	40.00%	77.33%
<b>Total</b>	53.33%	46.67%	100.00%

Diff: 1

Keywords: total percentages

Topics: Section 2.3

251) Referring to Table 2-15, of those who owned a portable DVD in the sample, \_\_\_\_\_ percent were females.

Answer: 29.41%

Diff: 2

Keywords: contingency table, row percentages

Topics: Section 2.3



252) Referring to Table 2-15, of those who did not own a portable DVD in the sample, \_\_\_\_\_ percent were males.

Answer: 48.28%

Diff: 2

Keywords: contingency table, row percentages

Topics: Section 2.3

253) Referring to Table 2-15, of the males in the sample, \_\_\_\_\_ percent owned a portable DVD.

Answer: 30%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

254) Referring to Table 2-15, of the females in the sample, \_\_\_\_\_ percent did not own a portable DVD.

Answer: 85.71%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

255) Referring to Table 2-15, of the females in the sample, \_\_\_\_\_ percent owned a portable DVD.

Answer: 14.29%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

256) Referring to Table 2-15, \_\_\_\_\_ percent of the 600 were females who owned a portable DVD.

Answer: 6.67%

Diff: 2

Keywords: contingency table, total percentage

Topics: Section 2.3

257) Referring to Table 2-15, \_\_\_\_\_ percent of the 600 were males who owned a portable DVD.

Answer: 16%

Diff: 2

Keywords: contingency table, total percentage

Topics: Section 2.3

258) Referring to Table 2-15, \_\_\_\_\_ percent of the 600 were females who either owned or did not own a portable DVD.

Answer: 46.67%

Diff: 2

Keywords: contingency table, total percentage

Topics: Section 2.3

259) Referring to Table 2-15, \_\_\_\_\_ percent of the 600 were males who did not own a portable DVD.

Answer: 37.33%

Diff: 2

Keywords: contingency table, total percentage

Topics: Section 2.3

260) Referring to Table 2-15, \_\_\_\_\_ percent of the 600 owned a portable DVD.

Answer: 22.67%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

261) Referring to Table 2-15, \_\_\_\_\_ percent of the 600 did not own a portable DVD.

Answer: 77.33%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

262) Referring to Table 2-15, \_\_\_\_\_ percent of the 600 were females.

Answer: 46.67%

Diff: 1

Keywords: contingency table, row percentages

Topics: Section 2.3

263) Referring to Table 2-15, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the population will own a portable DVD.

Answer: 22.67%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

264) Referring to Table 2-15, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the population will be males.

Answer: 53.33%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

265) Referring to Table 2-15, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of those who own a portable DVD in the population will be males.

Answer: 70.59%

Diff: 2

Keywords: contingency table, row percentages

Topics: Section 2.3

266) Referring to Table 2-15, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the males in the population will own a portable DVD.

Answer: 30%

Diff: 2

Keywords: contingency table, column percentages

Topics: Section 2.3

267) Referring to Table 2-15, if the sample is a good representation of the population, we can expect \_\_\_\_\_ percent of the females in the population will not own a portable DVD.

Answer: 85.71%

Diff: 2

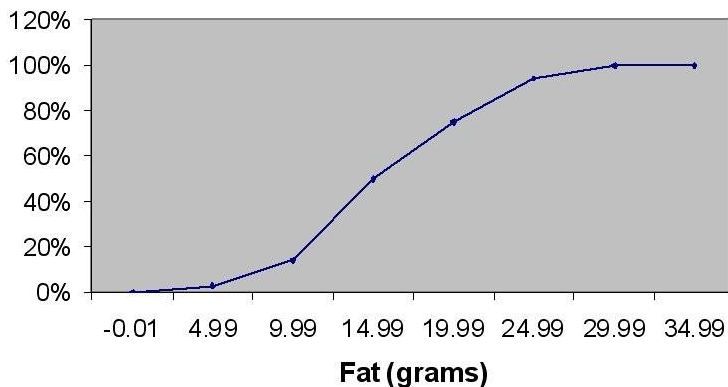
Keywords: contingency table, column percentages

Topics: Section 2.3

TABLE 2-16

The figure below is the ogive for the amount of fat (in grams) for a sample of 36 pizza products where the upper boundaries of the intervals are: 5, 10, 15, 20, 25, and 30.

**Cumulative Percentage Polygon for Fat**



268) Referring to Table 2-16, roughly what percentage of pizza products contains less than 10 grams of fat?

A) 3%

B) 14%

C) 50%

D) 75%

Answer: B

Diff: 1

Keywords: cumulative percentage polygon, ogive, interpretation

Topics: Section 2.6

269) Referring to Table 2-16, what percentage of pizza products contains at least 20 grams of fat?

- A) 5%
- B) 25%
- C) 75%
- D) 96%

Answer: B

Diff: 1

Keywords: cumulative percentage polygon, ogive, interpretation

Topics: Section 2.6

270) Referring to Table 2-16, what percentage of pizza products contains between 10 and 25 grams of fat?

- A) 14%
- B) 44%
- C) 62%
- D) 81%

Answer: D

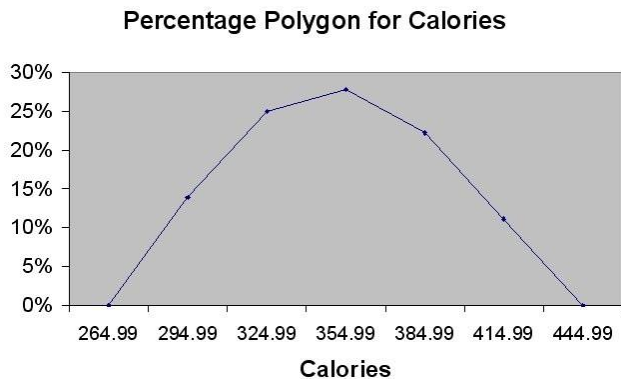
Diff: 1

Keywords: cumulative percentage polygon, ogive, interpretation

Topics: Section 2.6

TABLE 2-17

The figure below is the percentage polygon for the amount of calories for a sample of 36 pizzas products where the upper limits of the intervals are: 310, 340, 370, 400 and 430.



271) Referring to Table 2-17, roughly what percentage of pizza products contains between 400 and 430 calories?

- A) 0%
- B) 11%
- C) 89%
- D) 100%

Answer: B

Diff: 1

Keywords: percentage polygon, interpretation

Topics: Section 2.6

272) Referring to Table 2-17, roughly what percentage of pizza products contains between 340 and 400 calories?

- A) 22%
- B) 25%
- C) 28%
- D) 50%

Answer: D

Diff: 2

Keywords: percentage polygon, interpretation

Topics: Section 2.6

273) Referring to Table 2-17, roughly what percentage of pizza products contains at least 340 calories?

- A) 25%
- B) 28%
- C) 39%
- D) 61%

Answer: D

Diff: 2

Keywords: percentage polygon, interpretation

Topics: Section 2.6

TABLE 2-18

The following table presents total retail sales in millions of dollars for the leading apparel companies during April 2008 and April 2009.

<b>APPAREL COMPANY</b>	<b>April 2008</b>	<b>April 2009</b>
Gap	1,159.00	962
TJX	781.7	899
Limited	596.5	620.4
Kohl's	544.9	678.9
Nordstrom	402.6	418.3
Talbots	139.9	130.1
AnnTaylor	114.2	124.8

274) Referring to Table 2-18, construct a table of column percentages.

Answer:

<b>Apparel Company</b>	<b>April 2008</b>	<b>April 2009</b>
Gap	31.00%	25.09%
TJX	20.91%	23.45%
Limited	15.95%	16.18%
Kohl's	14.57%	17.71%
Nordstrom	10.77%	10.91%
Talbots	3.74%	3.39%
AnnTaylor	3.05%	3.26%
Total	100.00%	100.00%

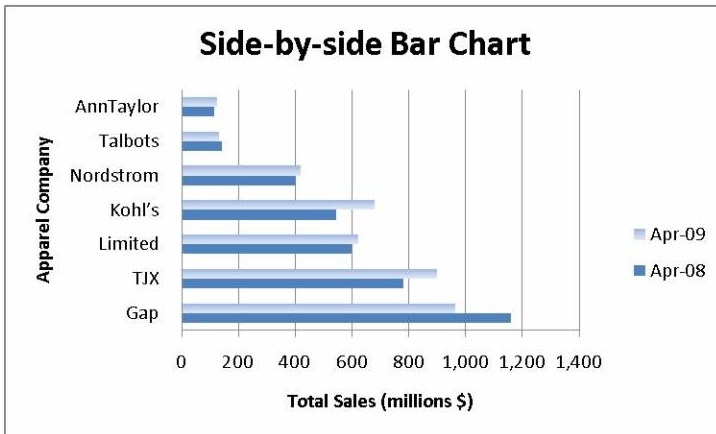
Diff: 2

Keywords: column percentages

Topics: Section 2.3

275) Referring to Table 2-18, construct a side-by-side bar chart.

Answer:



Diff: 2

Keywords: column percentages, side-by-side chart

Topics: Section 2.3 & Section 2.5

276) True or False: Referring to Table 2-18, in general, retail sales for the apparel industry have seen a modest growth between April 2008 and April 2009.

Answer: TRUE

Diff: 1

Keywords: column percentages, side-by-side chart, interpretation

Topics: Section 2.3 & Section 2.5

277) Referring to Table 2-18, among the 8 stores, \_\_\_\_\_ saw a sales decline.

Answer: Gap and Talbots

Diff: 1

Keywords: column percentages, side-by-side chart, interpretation

Topics: Section 2.3 & Section 2.5