Introductory Statistics, 10e **(Mann)**
Chapter 2 Organizing and Graphing Data

2.1 Organizing and Graphing Qualitative Data

1) Raw data are the data that:
A) are presented in the form of a frequency table
B) are recorded in the sequence in which they are collected
C) are arranged in increasing order
D) are arranged in a random order
Answer: B
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 001

2) We obtain the relative frequency of a category by:
A) dividing the frequency of that category by the sum of all frequencies
B) multiplying the frequency of that category by 100
C) dividing the frequency of that category by 100
D) dividing the sum of all frequencies by the frequency of that category
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 002

3) We obtain the percentage of a category by:
A) multiplying the frequency of that category by 100
B) multiplying the relative frequency of that category by 100
C) dividing the frequency of that category by 100
D) dividing the sum of all frequencies by the frequency of that category
Answer: B
Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 003

Use the following to answer the questions below.

The following data give the results of a sample survey. The letters A, B, and C represent the three categories.

A B A B B C A A C B
B B C A C C C A B B

4) Construct a frequency distribution table.
Answer:

Chosen Option	*f*
A	6
B	8
C	6

Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 004

5) Calculate the relative frequencies and percentages for all categories.
Answer:

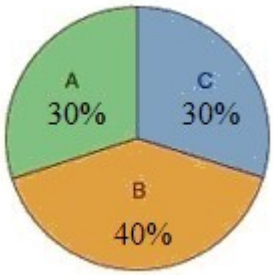
Chosen Option	Relative Frequency	Percentage
A	6/20 = 0.3	0.3(100) = 30
B	8/20 = 0.4	0.4(100) = 40
C	6/20 = 0.3	0.3(100) = 30
	Sum = 1	Sum = 100%

Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 005

6) What percentage of the elements in this sample belong to category B?
A) 40%
B) 30%
C) 70%
D) 60%
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 006

7) What percentage of the elements in this sample belong to categories A or B?
A) 70%
B) 40%
C) 30%
D) 60%
Answer: A
Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 007

8) Draw a pie chart for the percentage distribution.
Answer:



Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 008

9) The number of The following table gives the frequency distribution of the highest degrees held by 25 professionals.

Highest Degree	***f***
Bachelor's	14
Master's	8
Doctorate	3

The number of persons with a Master's degree as their highest degree is:
Answer: 8
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 009

10) The following table gives the frequency distribution of the highest degrees held by 25 professionals.

Highest Degree	***f***
Bachelor's	14
Master's	7
Doctorate	4

The number of persons who possess a Doctorate is:
Answer: 4
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 010

11) The following table gives the frequency distribution of the highest degrees held by 25 professionals.

Highest Degree	***f***
Bachelor's	12
Master's	9
Doctorate	4

The percentage of persons with a Bachelor's degree as the highest degree is:
A) 48%
B) 36%
C) 16%
D) 52%
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 011

12) The following table gives the frequency distribution of the highest degrees held by 25 professionals.

Highest Degree	***f***
Bachelor's	15
Master's	9
Doctorate	1

The percentage of persons who hold a Doctorate is:
A) 4%
B) 36%
C) 60%
D) 40%
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 012

13) The following table gives the frequency distribution of the highest degrees held by 25 professionals.

Highest Degree	***f***
Bachelor's	13
Master's	7
Doctorate	5

The percentage of persons who do not hold a Doctorate is:
A) 80%
B) 20%
C) 52%
D) 48%
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 013

14) The following table gives the frequency distribution of opinions of 50 persons in regard to an issue.

Opinion	***f***
In favor	24
Against	19
No opinion	7

The percentage of persons who have no opinion is:
A) 14%
B) 48%
C) 38%
D) 86%
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 014

15) The following table gives the frequency distribution of opinions of 50 persons in regard to an issue.

Opinion	***f***
In favor	17
Against	18
No opinion	15

The relative frequency, expressed to two decimal places, of the "Against" category is:
Answer: 0.36
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 015

16) The following table gives the frequency distribution of opinions of 50 persons in regard to an issue.

Opinion	***f***
In favor	17
Against	19
No opinion	14

The sample size is:
Answer: 50
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 016

17) The following table gives the frequency distribution of opinions of 50 persons in regard to an issue.

Opinion	***f***
In favor	23
Against	16
No opinion	11

The percentage of persons who are either against this issue or have no opinion is:
A) 54%
B) 22%
C) 32%
D) 46%
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 017

18) The following table gives the frequency distribution of opinions of 50 persons in regard to an issue.

Opinion	***f***
In favor	22
Against	19
No opinion	9

The percentage of persons who are either in favor of this issue or have no opinion is:
A) 62%
B) 38%
C) 82%
D) 56%
Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 018

Use the following to answer the questions below.

The following data show the type of roof covering of 40 houses in a neighborhood. Here, A refers to asphalt shingles, M refers to metal, S refers to slate, T refers to tile, and W refers to wood.

W	A	A	T	S	A	A	M	A	A
M	M	M	W	M	A	A	A	A	A
T	M	M	M	M	T	A	A	A	A
A	A	A	A	W	A	A	A	T	A

19) Construct a frequency distribution table.
Answer:

Chosen Option	***f***
A	23
M	9
S	1
T	4
W	3

Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 019

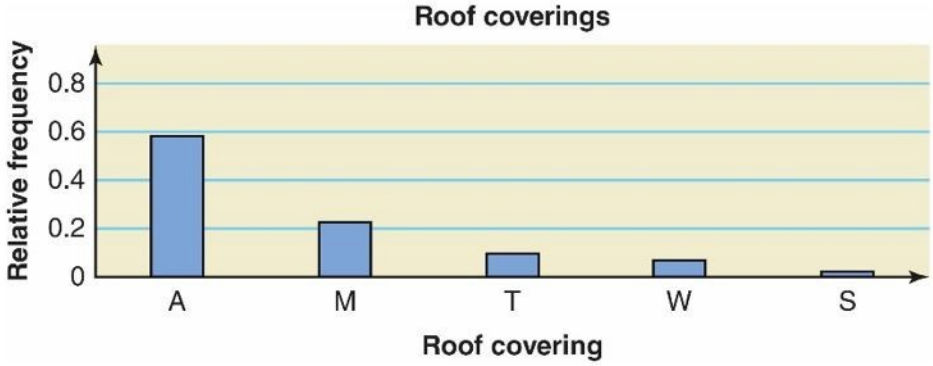
20) Calculate the relative frequencies and percentages for all categories.
Answer:

Roof Covering	Relative Frequency	Percentage
A	23/40 = 0.575	0.575(100) = 57.5
M	9/40 = 0.225	0.225(100) = 22.5
S	1/40 = 0.025	0.025(100) = 2.5
T	4/40 = 0.100	0.100(100) = 10.0
W	3/40 = 0.075	0.075(100) = 7.5
	Sum = 1	Sum = 100%

Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 020

21) What percentage of the houses in this neighborhood have metal or tile roof coverings?
A) 32.5%
B) 25%
C) 10%
D) 22.5%
Answer: A
Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 021

22) Make a Pareto chart for the relative frequency distribution.
Answer:



Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 022

23) You ask 34 people what kind of pet they own. Seven people have dogs, five have cats, three have birds, and the remainder have no pets. The relative frequency of those who have no pets, rounded to three decimal places, is:
Answer: 0.559
Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 086

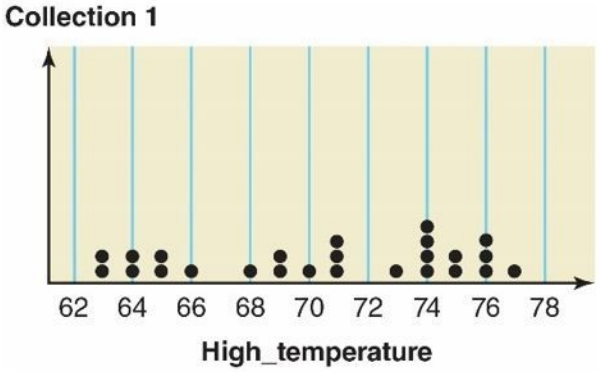
24) Fifteen programmers were asked what computer language was used in their first programming class. The raw data appears below:

Java	Visual Basic	Visual Basic	Java	Fortran
C++	C++	Fortran	Java	Visual Basic
Fortran	Visual Basic	C++	Visual Basic	Visual Basic

The percentage of people, rounded to two decimal places, who did not answer "Fortran" is:
Answer: 80.00%
Diff: 2
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 087

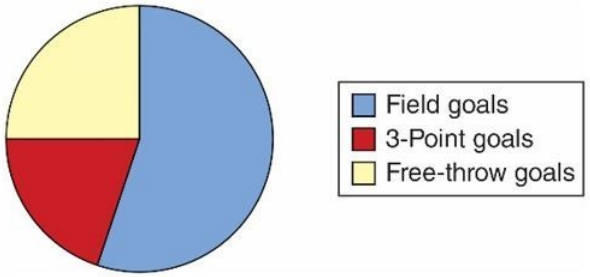
Use the following to answer the questions below.

Here is a dot plot of the daily high temperature (in Fahrenheit) from a sample of 25 U.S. cities:

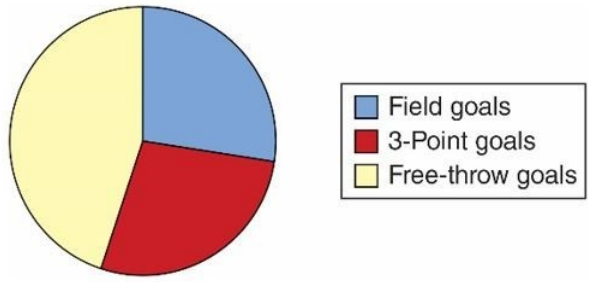


25) During a local basketball camp, the participants scored a total of 886 points, of which 485 points were scored by two-point field goals, 179 points by three-point field goals, and 222 points by free-throw goals. Find the pie chart that better describes the data.

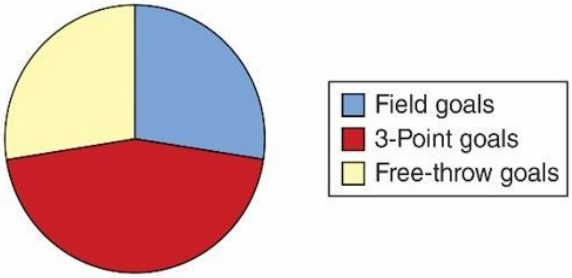
A)



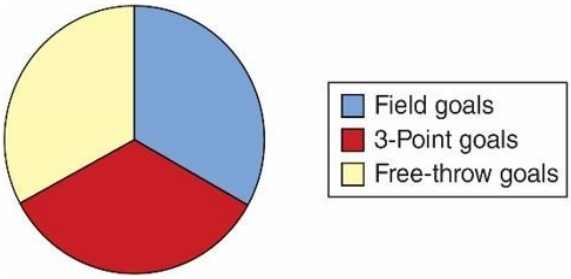
B)



C)



D)



Answer: A
Diff: 1
LO: 2.1.0 Demonstrate how to organize and graph qualitative data.
Section: 2.1 Organizing and Graphing Qualitative Data
Question Title: Chapter 02, Testbank Question 100

2.2 Organizing and Graphing Quantitative Data

1) In a frequency distribution, the classes should always:
A) be overlapping
B) have the same frequency
C) have a width of 10
D) be non-overlapping
Answer: D
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 023

2) The number of classes in a frequency distribution for a quantitative data set depends on the size of the data set. In general, the:
A) larger the data set, the larger the number of classes
B) larger the data set, the smaller the number of classes
C) number of classes should be equal to the number of values in the data set divided by 5
D) smaller the data set, the larger the number of classes
Answer: A
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 024

3) When preparing a frequency distribution for a quantitative data set, the lower limit of the first class should always be:
A) a number that is greater than the smallest value in the data set
B) equal to 10
C) a number that is less than or equal to the smallest value in the data set
D) equal to zero
Answer: C
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 025

4) A distribution curve that is right-skewed has:
A) both tails of the same length
B) a longer tail on the left side
C) a shorter tail on the right side
D) a longer tail on the right side
Answer: D
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 026

5) A symmetric distribution curve:
A) has a longer tail on the right side
B) has a longer tail on the left side
C) is identical on both sides of the central point
D) is triangular in shape
Answer: C
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 027

6) The procedure for obtaining the midpoint of a class is to:
A) add the lower limit to the upper limit of the previous class
B) subtract the lower limit from the upper limit
C) multiply the sum of the two class limits by 2
D) divide the sum of the two class limits by 2
Answer: D
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 028

7) The procedure for obtaining the relative frequency of a class is to:
A) divide the frequency of that class by the sum of all frequencies
B) multiply the frequency of that class by 100
C) divide the frequency of that class by 100
D) divide the sum of all frequencies by the frequency of that class
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 029

8) The procedure for obtaining the percentage for a class is to:
A) multiply the frequency of that class by 100
B) multiply the relative frequency of that class by 100
C) divide the relative frequency of that class by 100
D) divide the sum of all frequencies by 100
Answer: B
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 030

9) In a frequency histogram, the frequency of a class is given by the:
A) height of the corresponding bar
B) width of the corresponding bar
C) height multiplied by the width of the corresponding bar
D) height divided by the width of the corresponding bar
Answer: A
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 031

10) We can construct a frequency histogram for:
A) qualitative data only
B) any kind of data
C) qualitative and quantitative data
D) quantitative data
Answer: D
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 032

11) In a frequency distribution, the correct notation for the sum of the frequencies is:
A) $\sum f$
B) f
C) x
D) y
Answer: A
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 033

12) A uniform or rectangular histogram has:
A) a longer tail on the right side
B) a longer tail on the left side
C) shorter tails on both sides
D) the same frequency for each class
Answer: D
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 034

13) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	***f***
61 to 70	4
71 to 80	5
81 to 90	12
91 to 100	9

The number of classes in this frequency table is:
Answer: 4
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 035

14) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	*f*
61 to 70	2
71 to 80	6
81 to 90	15
91 to 100	7

The width of each class in this frequency table is:
Answer: 10
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 036

15) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	*f*
61 to 70	1
71 to 80	5
81 to 90	10
91 to 100	14

The midpoint of the fourth class is:
Answer: 95.5
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 037

16) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	*f*
61 to 70	3
71 to 80	6
81 to 90	10
91 to 100	11

The lower boundary of the first class is:
Answer: 60.5
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 038

17) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	***f***
61 to 70	3
71 to 80	6
81 to 90	11
91 to 100	10

The upper boundary of the third class is:
Answer: 90.5
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 039

18) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	***f***
61 to 70	3
71 to 80	5
81 to 90	10
91 to 100	12

The sample size is:
Answer: 30
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 040

19) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	***f***
61 to 70	2
71 to 80	5
81 to 90	15
91 to 100	8

The relative frequency of the second class, rounded to three decimal places, is:
Answer: 0.167
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 041

20) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	***f***
61 to 70	4
71 to 80	7
81 to 90	10
91 to 100	9

The percentage of students who scored 80 or less on the test, rounded to two decimal places, is:
A) 36.67%
B) 63.33%
C) 70.00%
D) 56.67%
Answer: A
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 042

21) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	***f***
61 to 70	3
71 to 80	8
81 to 90	12
91 to 100	7

The lower limit of the fourth class is:
Answer: 91
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 043

22) The following table gives the frequency distribution of test scores for a math class of 30 students.

Score	***f***
61 to 70	4
71 to 80	7
81 to 90	13
91 to 100	6

The upper limit of the fourth class is:
Answer: 100
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 044

23) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	33
1001 to 1100	49
1101 to 1200	82
1201 to 1300	115
1301 to 1400	131
1401 to 1500	90

The number of classes in this frequency table is:
Answer: 6
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 045

24) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	26
1001 to 1100	47
1101 to 1200	73
1201 to 1300	117
1301 to 1400	132
1401 to 1500	105

The width of each class in this frequency table is:
Answer: 100
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 046

25) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	36
1001 to 1100	55
1101 to 1200	73
1201 to 1300	101
1301 to 1400	136
1401 to 1500	99

The midpoint of the second class is:
Answer: 1050.5
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 047

26) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	31
1001 to 1100	47
1101 to 1200	82
1201 to 1300	107
1301 to 1400	141
1401 to 1500	92

The lower boundary of the fifth class is:
Answer: 1300.5
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 048

27) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	27
1001 to 1100	50
1101 to 1200	82
1201 to 1300	103
1301 to 1400	131
1401 to 1500	107

The upper boundary of the fourth class is:
Answer: 1300.5
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 049

28) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	32
1001 to 1100	49
1101 to 1200	82
1201 to 1300	110
1301 to 1400	130
1401 to 1500	97

The sample size is:
Answer: 500
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 050

29) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	30
1001 to 1100	52
1101 to 1200	77
1201 to 1300	105
1301 to 1400	127
1401 to 1500	109

The relative frequency of the sixth class, rounded to three decimal places, is:
Answer: 0.218
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 051

30) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	27
1001 to 1100	48
1101 to 1200	81
1201 to 1300	112
1301 to 1400	129
1401 to 1500	103

The percentage of families who paid a rent of $1100 or less per month, rounded to one decimal place, is:
A) 15.0%
B) 31.2%
C) 25.8%
D) 85%
Answer: A
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 052

31) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	27
1001 to 1100	51
1101 to 1200	78
1201 to 1300	117
1301 to 1400	129
1401 to 1500	98

The lower limit of the third class is:
Answer: 1101
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 053

32) The following table gives the frequency distribution of rents paid per month by 500 families selected from a city.

Rent	***f***
901 to 1000	36
1001 to 1100	51
1101 to 1200	73
1201 to 1300	115
1301 to 1400	133
1401 to 1500	92

The upper limit of the second class is:
Answer: 1100
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 054

33) The following table gives the frequency distribution of the number of telephones owned by a sample of 50 households selected from a city.

Number of Cellphones Owned	***f***
0	0
1	19
2	16
3	4
4	11

The relative frequency of the second class, rounded to two decimal places, is:
Answer: 0.38
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 055

34) The following table gives the frequency distribution of the number of telephones owned by a sample of 50 households selected from a city.

Number of Cellphones Owned	***f***
0	3
1	20
2	16
3	6
4	5

The number of households which own more than one cellphone is:
Answer: 27
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 056

35) The following table gives the frequency distribution of the number of telephones owned by a sample of 50 households selected from a city.

Number of Cellphones Owned	***f***
0	0
1	19
2	14
3	6
4	11

The percentage of households which own three or more cellphones is:
A) 34%
B) 22%
C) 62%
D) 17%
Answer: A
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 057

36) The following table gives the frequency distribution of the number of telephones owned by a sample of 50 households selected from a city.

Number of Cellphones Owned	***f***
0	3
1	20
2	15
3	6
4	6

The number of households which own one or two cellphones is:
Answer: 35
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 058

37) The following table gives the frequency distribution of the number of telephones owned by a sample of 50 households selected from a city.

Number of Cellphones Owned	*f*
0	4
1	19
2	14
3	5
4	8

The percentage of households which do not own a Cellphone is:
A) 8%
B) 92%
C) 46%
D) 26%
Answer: A
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 059

38) The following table gives the frequency distribution of the number of telephones owned by a sample of 50 households selected from a city.

Number of Cellphones Owned	*f*
0	2
1	19
2	14
3	6
4	9

Would the graph of this distribution be a bar graph or a histogram?
A) bar graph
B) histogram
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 060

39) The following table gives the frequency distribution of the number of rooms for a sample of 120 apartments.

Number of Rooms	*f*
2	9
3	9
4	27
5	24
6	30
7	16
8	5

The relative frequency of the fourth class, rounded to two decimal places, is:
Answer: 0.20
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 061

40) The following table gives the frequency distribution of the number of rooms for a sample of 120 apartments.

Number of Rooms	*f*
2	9
3	8
4	26
5	22
6	28
7	16
8	11

The percentage of apartments that have three or fewer rooms, rounded to one decimal place, is:
A) 14.2%
B) 6.7%
C) 26.0%
D) 35.8%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 062

41) The following table gives the frequency distribution of the number of rooms for a sample of 120 apartments.

Number of Rooms	*f*
2	8
3	10
4	26
5	23
6	27
7	17
8	9

The percentage of apartments that contain five or more rooms, rounded to one decimal place, is:
A) 63.3%
B) 19.2%
C) 36.7%
D) 44.2%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 063

42) The following table gives the frequency distribution of the number of rooms for a sample of 120 apartments.

Number of Rooms	*f*
2	8
3	12
4	27
5	23
6	26
7	13
8	11

The number of apartments that contain four or five rooms is:
Answer: 49
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 064

43) The following table gives the frequency distribution of the number of rooms for a sample of 120 apartments.

Number of Rooms	*f*
2	7
3	9
4	26
5	23
6	29
7	14
8	12

The relative frequency of the fifth class, rounded to two decimal places, is:
Answer: 0.24
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 065

44) The following table gives the frequency distribution of the number of rooms for a sample of 120 apartments.

Number of Rooms	*f*
2	6
3	11
4	25
5	23
6	28
7	15
8	12

The number of classes for this frequency distribution table is:
Answer: 7
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 066

Use the following to answer the questions below.

The following data give the number of perfect games (score of 300) bowled prior to a local tournament by the bowlers participating in the tournament.

4	0	0	2	3	1	1	2	1	0	3	5	2
4	1	0	0	2	6	4	2	0	0	1	3	

45) Construct a frequency distribution table for these data using single-valued classes.
Answer:

Perfect Games	***f***
0	7
1	5
2	5
3	3
4	3
5	1
6	1

Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 067

46) Calculate the relative frequency and percentage for each class.
Answer:

Perfect Games	**Relative Frequency**	**Percentage**
0	7/25 = 0.28	0.28(100) = 28
1	5/25 = 0.20	0.20(100) = 20
2	5/25 = 0.20	0.20(100) = 20
3	3/25 = 0.12	0.12(100) = 12
4	3/25 = 0.12	0.12(100) = 12
5	1/25 = 0.04	0.04(100) = 4
6	1/25 = 0.04	0.04(100) = 4
	Sum = 1	Sum = 100%

Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 068

47) What is the relative frequency of bowlers who bowled less than 3 perfect games prior to the tournament?
Answer: 0.68
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 069

48) Draw a bar graph for the frequency distribution of the data.
Answer:

Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 070

49) The following table gives the cumulative frequency distribution of annual incomes (in thousands of dollars) for a sample of 200 families selected from a city.

Income ($1000's)	***f***
15 to less than 25	30
15 to less than 40	88
15 to less than 55	149
15 to less than 70	174
15 to less than 85	189
15 to less than 100	200

The cumulative relative frequency of the fourth class, rounded to three decimal places, is:
Answer: 0.870
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 072

50) The following table gives the cumulative frequency distribution of annual incomes (in thousands of dollars) for a sample of 200 families selected from a city.

Income ($1000's)	***f***
15 to less than 25	26
15 to less than 40	81
15 to less than 55	143
15 to less than 70	167
15 to less than 85	190
15 to less than 100	200

The sample size is:
Answer: 200
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 072

51) The following table gives the cumulative frequency distribution of annual incomes (in thousands of dollars) for a sample of 200 families selected from a city.

Income ($1000's)	***f***
15 to less than 25	24
15 to less than 40	87
15 to less than 55	149
15 to less than 70	170
15 to less than 85	190
15 to less than 100	200

The cumulative percentage for the second class, rounded to one decimal place, is:
A) 43.5%
B) 55.5%
C) 56.5%
D) 44.5%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 073

52) The following table gives the cumulative frequency distribution of annual incomes (in thousands of dollars) for a sample of 200 families selected from a city.

Income ($1000's)	***f***
15 to less than 25	29
15 to less than 40	80
15 to less than 55	147
15 to less than 70	170
15 to less than 85	188
15 to less than 100	200

The percentage of families with an income of less than $55,000, rounded to one decimal place, is:
A) 73.5%
B) 40.0%
C) 26.5%
D) 60%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 074

53) The following table gives the cumulative frequency distribution of annual incomes (in thousands of dollars) for a sample of 200 families selected from a city.

Income ($1000's)	***f***
15 to less than 25	28
15 to less than 40	87
15 to less than 55	145
15 to less than 70	170
15 to less than 85	191
15 to less than 100	200

The percentage of families with an income of $70,000 or more, rounded to one decimal place, is:
A) 15.0%
B) 85.0%
C) 95.5%
D) 4.5%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 075

54) The following table gives the cumulative frequency distribution of annual incomes (in thousands of dollars) for a sample of 200 families selected from a city.

Income ($1000's)	***f***
15 to less than 25	30
15 to less than 40	86
15 to less than 55	145
15 to less than 70	171
15 to less than 85	188
15 to less than 100	200

The number of families with an income of $40,000 or less is:
A) 86
B) 30
C) 145
D) cannot be determined
Answer: D
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 076

55) The following table gives the cumulative frequency distribution of annual incomes (in thousands of dollars) for a sample of 200 families selected from a city.

Income ($1000's)	***f***
15 to less than 25	23
15 to less than 40	82
5 to less than 55	138
15 to less than 70	171
15 to less than 85	185
15 to less than 100	200

The number of families with an income of $85,000 or more is:
Answer: 15
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 077

56) The following table gives the cumulative frequency distribution of the commuting time (in minutes) from home to work for a sample of 400 persons selected from a city.

Time (minutes)	*f*
0 to less than 10	63
0 to less than 20	160
0 to less than 30	221
0 to less than 40	287
0 to less than 50	360
0 to less than 60	400

The sample size is:
Answer: 400
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 078

57) The following table gives the cumulative frequency distribution of the commuting time (in minutes) from home to work for a sample of 400 persons selected from a city.

Time (minutes)	*f*
0 to less than 10	63
0 to less than 20	160
0 to less than 30	216
0 to less than 40	285
0 to less than 50	346
0 to less than 60	400

The percentage of persons who commute for less than 30 minutes, rounded to two decimal places, is:
A) 54.00%
B) 40.00%
C) 71.25%
D) 60.0%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 079

58) The following table gives the cumulative frequency distribution of the commuting time (in minutes) from home to work for a sample of 400 persons selected from a city.

Time (minutes)	*f*
0 to less than 10	62
0 to less than 20	160
0 to less than 30	220
0 to less than 40	285
0 to less than 50	354
0 to less than 60	400

The cumulative relative frequency of the fourth class, rounded to four decimal places, is:
Answer: 0.7125
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 080

59) The following table gives the cumulative frequency distribution of the commuting time (in minutes) from home to work for a sample of 400 persons selected from a city.

Time (minutes)	*f*
0 to less than 10	66
0 to less than 20	153
0 to less than 30	229
0 to less than 40	277
0 to less than 50	345
0 to less than 60	400

The percentage of persons who commute for 40 or more minutes, rounded to two decimal places, is:
A) 30.75%
B) 69.25%
C) 13.75%
D) 86.25%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 081

60) The following table gives the cumulative frequency distribution of the commuting time (in minutes) from home to work for a sample of 400 persons selected from a city.

Time (minutes)	***f***
0 to less than 10	65
0 to less than 20	155
0 to less than 30	224
0 to less than 40	291
0 to less than 50	356
0 to less than 60	400

The percentage of persons who commute for less than 50 minutes, rounded to two decimal places, is:
A) 89.00%
B) 11.00%
C) 72.75%
D) 27.25%
Answer: A
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 082

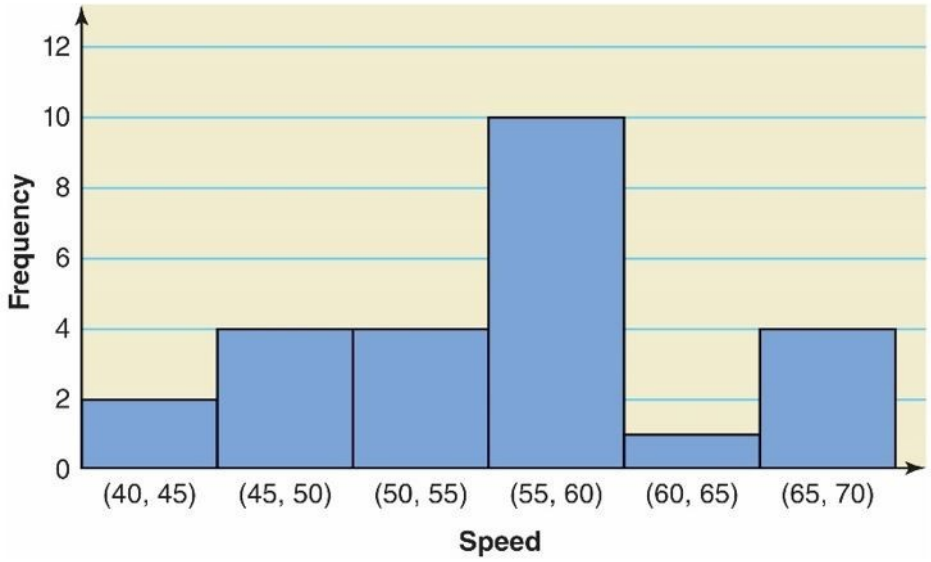
61) The following table gives the cumulative frequency distribution of the commuting time (in minutes) from home to work for a sample of 400 persons selected from a city.

Time (minutes)	***f***
0 to less than 10	61
0 to less than 20	157
0 to less than 30	226
0 to less than 40	284
0 to less than 50	347
0 to less than 60	400

The number of persons who commute for 20 or more minutes is:
Answer: 243
Diff: 2
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 083

Use the following to answer the questions below.

A highway patrolman records the following speeds (in mph) for 25 cars that pass through his radar within a five-minute interval. Here is the histogram of that data:



62) What is the width of each class?
Answer: 5
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 088

63) How many drivers had a speed that falls in the fourth interval?
Answer: 10
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 089

64) The relative frequency of drivers whose speed is less than 55 mph, rounded to two decimal places, is?
Answer: 0.40
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 090

65) The speed limit on this street is 60 mph. What percentage of drivers are traveling above the speed limit?
Answer: 20%
Diff: 1
LO: 2.2.0 Demonstrate how to organize and graph quantitative data.
Section: 2.2 Organizing and Graphing Quantitative Data
Question Title: Chapter 02, Testbank Question 091

2.3 Stem-and-Leaf Displays

1) In a stem-and-leaf display of two-digit numbers, the stem for 3 will be:
Answer: 0
Diff: 1
LO: 2.3.0 Demonstrate how to construct a stem-and-leaf display.
Section: 2.3 Stem-and-Leaf Displays
Question Title: Chapter 02, Testbank Question 084

2) In a stem-and-leaf display of two-digit numbers, the leaf for 84 will be:
Answer: 4
Diff: 1
LO: 2.3.0 Demonstrate how to construct a stem-and-leaf display.
Section: 2.3 Stem-and-Leaf Displays
Question Title: Chapter 02, Testbank Question 085

Use the following to answer the questions below.

Consider the following stem-and-leaf display of two-digit numbers.

1	1 3
2	1 2 8
3	5
4	4

3) What is the smallest value in this data set?
Answer: 11
Diff: 1
LO: 2.3.0 Demonstrate how to construct a stem-and-leaf display.
Section: 2.3 Stem-and-Leaf Displays
Question Title: Chapter 02, Testbank Question 092

4) How many values are in this data set?
Answer: 7
Diff: 1
LO: 2.3.0 Demonstrate how to construct a stem-and-leaf display.
Section: 2.3 Stem-and-Leaf Displays
Question Title: Chapter 02, Testbank Question 093

5) What is the sum of the values in the bottom two rows?
Answer: 79
Diff: 1
LO: 2.3.0 Demonstrate how to construct a stem-and-leaf display.
Section: 2.3 Stem-and-Leaf Displays
Question Title: Chapter 02, Testbank Question 094

6) Consider the following stem-and-leaf display, which has only two stems. Prepare a split stem-and-leaf display for the data. Split each stem into two parts. The first part should contain the leaves 0 through 4, and the second part should contain the leaves 5 through 9.

1	0	0	1	2	2	3	4	8	8	8	9	9
2	2	2	3	4	5	6	7	7	7	8		

Answer:

1	0	0	1	2	2	3	4
1	8	8	8	9	9		
2	2	2	3	4			
2	5	6	7	7	7	8	

Diff: 2
LO: 2.3.0 Demonstrate how to construct a stem-and-leaf display.
Section: 2.3 Stem-and-Leaf Displays
Question Title: Chapter 02, Testbank Question 095

7) The following data give the monthly utility bills (in dollars) for a sample of 50 customers.

584	489	154	357	915	331	218	451	624	256
334	501	657	600	308	842	189	584	239	512
678	345	517	651	689	482	475	717	362	294
667	529	743	365	291	555	614	814	502	371
188	212	277	349	865	549	478	406	385	527

Construct a stem-and-leaf display for these data using the last two digits as leaves.
Answer:

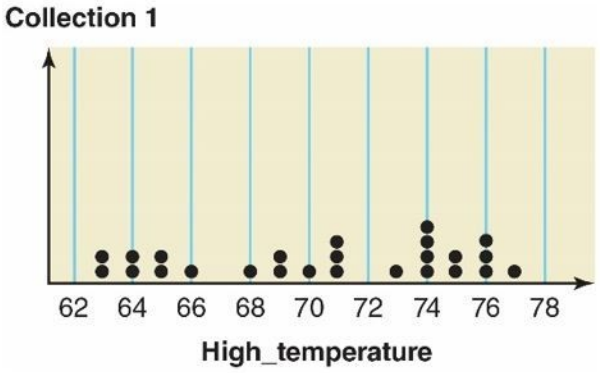
1	54	88	89							
2	12	18	39	56	77	91	94			
3	08	31	34	45	49	57	62	65	71	85
4	06	51	75	78	82	89				
5	01	02	12	17	27	29	49	55	84	84
6	00	14	24	51	57	67	78	89		
7	17	43								
8	14	42	65							
9	15									

Diff: 2
LO: 2.3.0 Demonstrate how to construct a stem-and-leaf display.
Section: 2.3 Stem-and-Leaf Displays
Question Title: Chapter 02, Testbank Question 096

2.4 Dotplots

Use the following to answer the questions below.

Here is a dot plot of the daily high temperature (in Fahrenheit) from a sample of 25 U.S. cities:



1) Which daily high temperature has the highest frequency?
Answer: 74
Diff: 1
LO: 2.4.0 Demonstrate an understanding of dotplots.
Section: 2.4 Dotplots
Question Title: Chapter 02, Testbank Question 097

2) How many cities had a daily high temperature of 72?
Answer: 0
Diff: 1
LO: 2.4.0 Demonstrate an understanding of dotplots.
Section: 2.4 Dotplots
Question Title: Chapter 02, Testbank Question 098

3) Does this data set contain an outlier?
Answer: no
Diff: 1
LO: 2.4.0 Demonstrate an understanding of dotplots.
Section: 2.4 Dotplots
Question Title: Chapter 02, Testbank Question 099