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Chapter 02 - Descriptive Statistics: Tabular and Graphical Displays

1. A frequency distribution is a tabular summary of data showing the _____ of items in several classes.
    a. fraction
    b. percentage
    c. relative percentage
    d. number

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Remember
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2. A cumulative frequency distribution is
    a. a tabular summary of a set of data showing the relative frequency.
    b. a tabular summary of a set of data showing sums of frequencies.
    c. a tabular summary of a set of data showing the frequency of items in each of several nonoverlapping classes.
    d. a graphical device for presenting categorical data.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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3. A tabular summary of a set of data showing the fraction of the total number of items in several classes is a _____ distribution.
    a. frequency
    b. relative frequency
    c. cumulative relative frequency
    d. cumulative frequency

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice

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4. The percent frequency of a class is computed by
   a. multiplying the frequency by 100.
   b. dividing the relative frequency by 100.
   c. multiplying the relative frequency by 100.
   d. dividing the frequency by 100.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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5. The relative frequency of a class is computed by
   a. dividing the midpoint of the class by the sample size.
   b. dividing the frequency of the class by the midpoint.
   c. dividing the sample size by the frequency of the class.
   d. dividing the frequency of the class by the sample size.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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6. The sum of frequencies for all classes will always equal
   a. 1.

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b. the number of elements in a data set.
c. the number of classes.
d. a value between 0 and 1.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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7. Fifteen percent of the students in a school of Business Administration are majoring in Economics, 20% in Finance, 35% in Management, and 30% in Accounting. The graphical device(s) which can be used to present these data is (are)
a. a line chart.
b. only a bar chart.
c. only a pie chart.
d. both a bar chart and a pie chart.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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8. A cumulative relative frequency distribution shows
a. the proportion of data items with values less than or equal to the upper limit of each class.
b. the proportion of data items with values less than or equal to the lower limit of each class.
c. the percentage of data items with values less than or equal to the upper limit of each class.
d. the percentage of data items with values less than or equal to the lower limit of each class.

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable

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9. The sum of the relative frequencies for all classes will always equal
   a. the sample size.
   b. 100%.
   c. one.
   d. any value larger than one.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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10. The sum of the percent frequencies for all classes will always equal
   a. one.
   b. the number of classes.
   c. the number of elements in the study.
   d. 100.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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11. The most common graphical presentation of quantitative data is a
   a. histogram.

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b. bar chart.
c. dot plot.
d. pie chart.

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
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12. The total number of data items with a value less than the upper limit for the class is given by the _____ distribution.
a. frequency
b. relative frequency
c. cumulative frequency
d. cumulative relative frequency

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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13. The relative frequency of a class is computed by
a. dividing the cumulative frequency of the class by the total number of elements in the data set.
b. dividing n by cumulative frequency of the class.
c. dividing the frequency of the class by the total number of elements in the data set.
d. dividing the frequency of the class by the number of classes.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic

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14. The difference between consecutive lower class or upper class limits of adjacent classes provides the
    a. number of classes.
    b. class limits.
    c. class midpoint.
    d. class width.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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15. In a cumulative frequency distribution, the last class will always have a cumulative frequency equal to
    a. one.
    b. 100%.
    c. the total number of elements in the data set.
    d. the class width.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
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16. In a cumulative relative frequency distribution, the last class will have a cumulative relative frequency equal to
    a. one.
    b. 100%.
    c. the total number of elements in the data set.
    d. the total of classes in the data set.

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ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
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17. In a cumulative percent frequency distribution, the last class will have a cumulative percent frequency equal to
    a. one.
    b. 100.
    c. the total number of elements in the data set.
    d. None of these alternatives is correct.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
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18. Data that provide labels or names for categories of like items are known as _____ data.
    a. categorical
    b. quantitative
    c. labeled
    d. qualitative

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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19. In a scatter diagram, a line that provides an approximation of the relationship between the variables is known as a _____ line.

a. determination
b. trend
c. control
d. zero-bias

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.04 - Summarizing data for two variables using graphical displays
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Remember
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20. A histogram is

a. a graphical presentation of a frequency or relative frequency distribution.
b. a graphical method of presenting a cumulative frequency or a cumulative relative frequency distribution.
c. the history of data elements.
d. the same as a pie chart.

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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21. Which of the following is a graphical summary of a set of data in which each data value is represented by a dot above the axis?

a. Histogram
b. Pie chart
c. Dot plot
d. Crosstabulation

ANSWER: c

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POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
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22. Which of the following graphical methods shows the relationship between two variables?
    a. Pie chart
    b. Histogram
    c. Crosstabulation
    d. Dot plot

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
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23. A sample of fifteen 7-year old boys shows their favorite superheroes:

Spiderman	Captain America	Aquaman
Batman	Spiderman	Spiderman
Iron Man	Superman	Spiderman
Aquaman	Captain America	Iron Man
Spiderman	Batman	Spiderman

Which of the following is the correct frequency distribution?

    a. Spiderman 4, Batman 3, Iron Man 1, Aquaman 4, Captain America 3, Superman 1
    b. Spiderman 6, Batman 2, Iron Man 2, Aquaman 2, Captain America 2, Superman 1
    c. Spiderman 6, Batman 1, Iron Man 3, Aquaman 1, Captain America 2, Superman 2
    d. None of these alternatives is correct.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice

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LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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24. A sample of fifteen 7-year old boys shows their favorite superheroes:

Spiderman	Captain America	Aquaman
Batman	Spiderman	Spiderman
Iron Man	Superman	Spiderman
Aquaman	Captain America	Iron Man
Spiderman	Batman	Spiderman

Which of the following is the correct relative frequency for Spiderman?

a. .27
b. .5
c. .4
d. .6

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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KEYWORDS: Bloom's: Apply
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25. A sample of fifteen 7-year old boys shows their favorite superheroes:

Spiderman	Captain America	Aquaman
Batman	Spiderman	Spiderman
Iron Man	Superman	Spiderman
Aquaman	Captain America	Iron Man
Spiderman	Batman	Spiderman

Which of the following is the correct percent frequency for Spiderman?

a. 10%
b. 27%
c. 2%
d. 40%

ANSWER: d

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POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
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26. The numbers of hours worked (per week) by 400 statistics students are shown below.

Number of hours	**Frequency**
0 - 9	20
10 - 19	80
20 - 29	200
30 - 39	100

The relative frequency of students working 0 - 9 hours per week is

a. .05
b. .20
c. .25
d. .50

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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27. The numbers of hours worked (per week) by 400 statistics students are shown below.

Number of hours	**Frequency**
0 - 9	20
10 - 19	80
20 - 29	200
30 - 39	100

The cumulative percent frequency for students working 10 or more hours per week is

a. 20%.
b. 25%.

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c. 80%.
d. 95%.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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28. The numbers of hours worked (per week) by 400 statistics students are shown below.

Number of hours	**Frequency**
0 - 9	20
10 - 19	80
20 - 29	200
30 - 39	100

The percentage of students who work at least 20 hours per week is
a. 25%.
b. 50%.
c. 75%.
d. 100%.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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KEYWORDS: Bloom's: Apply
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29. The numbers of hours worked on homework (per week) by 400 statistics students are shown below.

Number of hours	**Frequency**
0 -4	20
5 - 9	80
10 - 14	200
15 - 19	100

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The class width used in this frequency distribution is

a. 2.
b. 2.5.
c. 4.
d. 5.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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30. The numbers of hours worked (per week) by 400 statistics students are shown below.

Number of hours	**Frequency**
0 - 9	20
10 - 19	80
20 - 29	200
30 - 39	100

The midpoint of the third class is

a. 25.5
b. 24.
c. 25.
d. 24.5.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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31. A survey of 800 college seniors resulted in the following crosstabulation regarding their undergraduate major and whether or not they plan to go to graduate school.

	Undergraduate Major			
Graduate School	**Business**	**Engineering**	**Others**	**Total**

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Yes	70	84	126	280
No	182	208	130	520
Total	252	292	256	800

Of those students who are majoring in engineering, what percentage plans to go to graduate school?

a. 28.77
b. 10.5
c. 40.38
d. 71.23

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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32. Thirty students in the School of Business were asked what their majors were. The following represents their responses (M = Management; A = Accounting; E = Economics; O = Others).

A	M	M	A	M	M	E	M	O	A
E	E	M	A	O	E	M	A	M	A
M	A	O	A	M	E	E	M	A	M

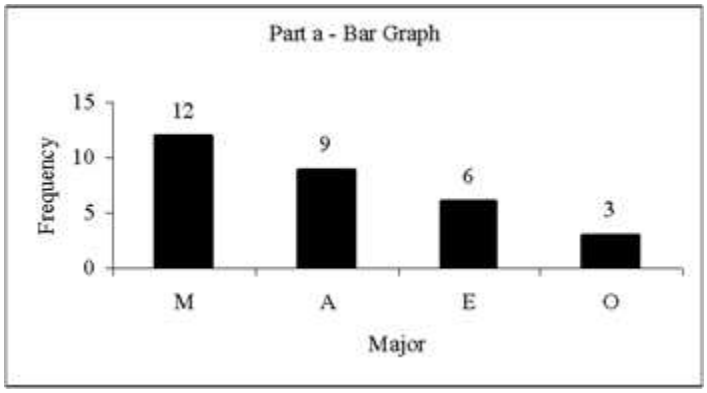
a. Construct a frequency distribution and a bar chart.
b. Construct a relative frequency distribution and a pie chart.

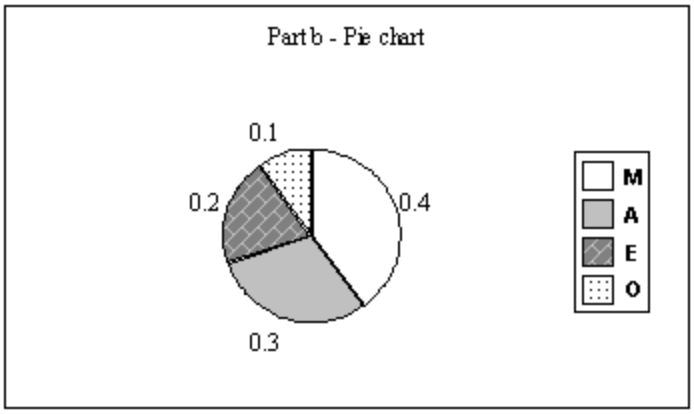
ANSWER:

	(a)	(b)
Major	**Frequency**	**Relative Frequency**
M	12	0.4
A	9	0.3
E	6	0.2
O	3	0.1
Total	30	1.0

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POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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33. Twenty employees of the Ahmadi Corporation were asked if they liked or disliked the new district manager. Below you are given their responses. Let L represent liked and D represent disliked.

L	L	D	L	D
D	D	L	L	D
D	L	D	D	L
D	D	L	D	L

a. Construct a frequency distribution and a bar chart.
b. Construct a relative frequency distribution and a pie chart.

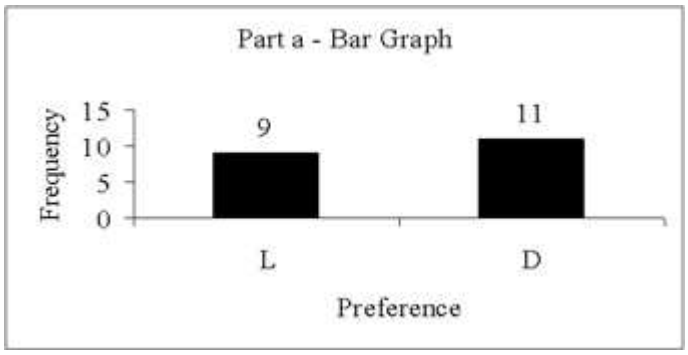
ANSWER: a and b

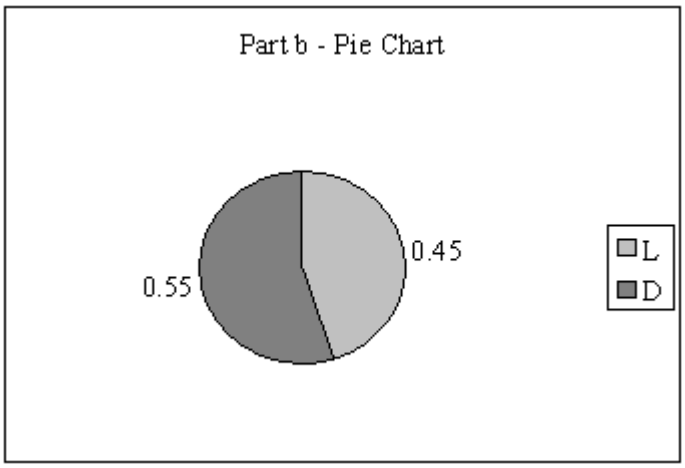
Preferences	**Frequency**	**Relative Frequency**

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L	9	0.45
D	11	0.55
Total	20	1.00





POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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34. Forty shoppers were asked if they preferred the weight of a can of soup to be 6 ounces, 8 ounces, or 10 ounces. Below you are given their responses.

6	6	6	10	8	8	8	10	6	6
10	10	8	8	6	6	6	8	6	6
8	8	8	10	8	8	6	10	8	6
6	8	8	8	10	10	8	10	8	6

a. Construct a frequency distribution and graphically represent the frequency distribution.
b. Construct a relative frequency distribution and graphically represent the relative frequency

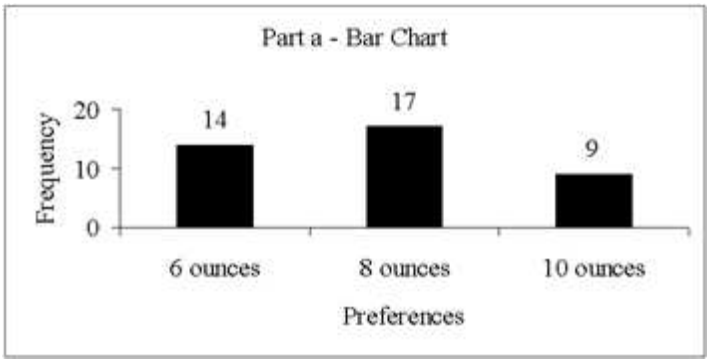
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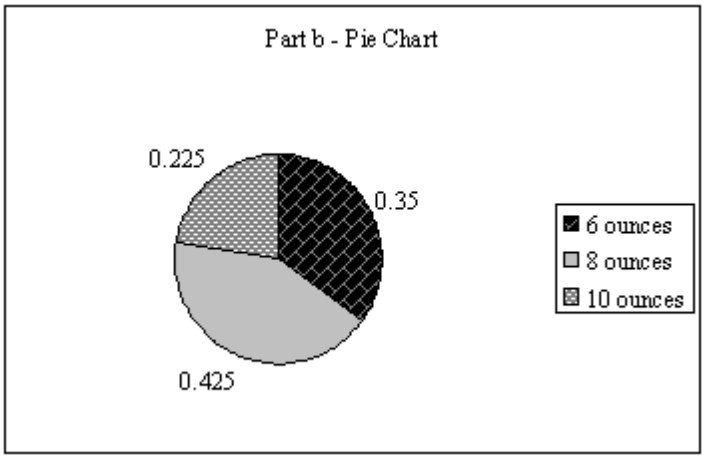
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distribution.

ANSWER: a and b

Preferences	Frequency	Relative Frequency
6 ounces	14	0.350
8 ounces	17	0.425
10 ounces	9	0.225
Total	40	1.000





POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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35. A student has completed 20 courses in the School of Arts and Sciences. Her grades in the 20 courses are shown below.

A B A B C
C C B B B

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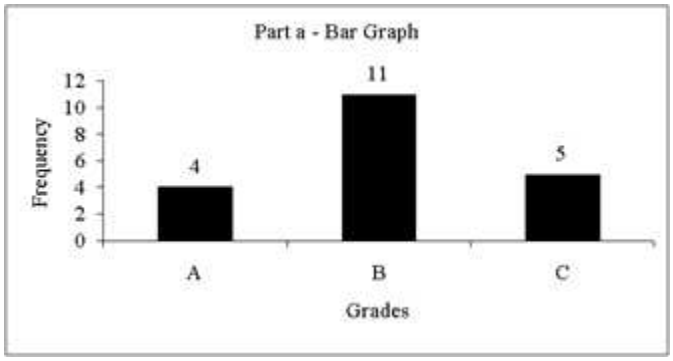
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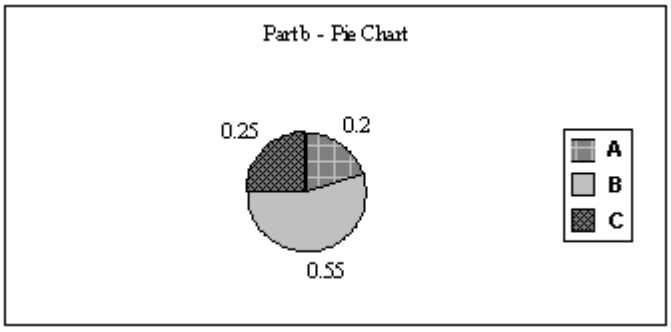
B A B B B
C B C B A

a. Develop a frequency distribution and a bar chart for her grades.
b. Develop a relative frequency distribution for her grades and construct a pie chart.

ANSWER: a and b

Grade	Frequency	Relative Frequency
A	4	0.20
B	11	0.55
C	5	0.25
Total	20	1.00





POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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36. A sample of 50 TV viewers were asked, "Should TV sponsors pull their sponsorship from programs that draw numerous viewer complaints?" Below are the results of the survey. (Y = Yes; N = No; W = Without Opinion)

N W N N Y N N N Y N

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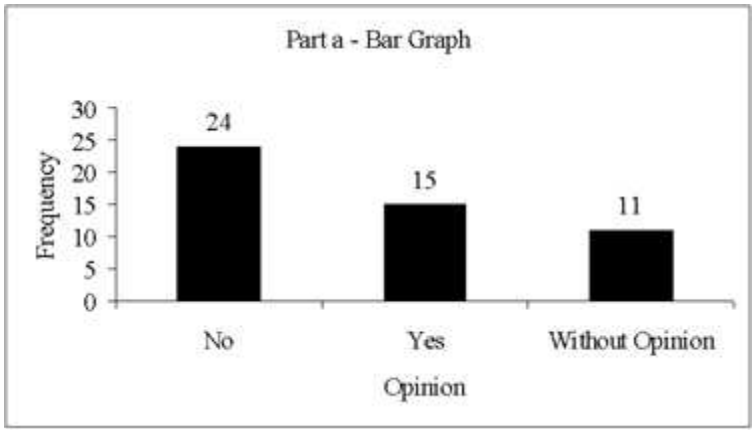
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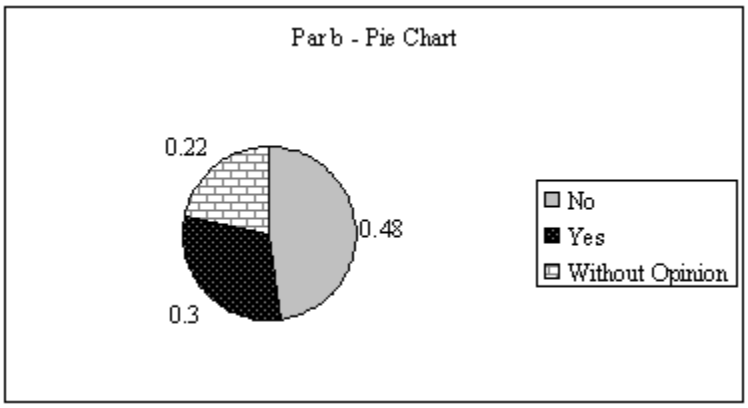
N	Y	N	N	N	N	N	Y	N	N
Y	N	Y	W	N	Y	W	W	N	Y
W	W	N	W	Y	W	N	W	Y	W
N	Y	N	Y	N	W	Y	Y	N	Y

a. Construct a frequency distribution and a bar chart.
b. Construct a relative frequency distribution and a pie chart.

ANSWER: a and b

	Frequency	**Relative Frequency**
No	24	0.48
Yes	15	0.30
Without Opinion	11	0.22
Total	50	1.00





POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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KEYWORDS: Bloom's: Apply
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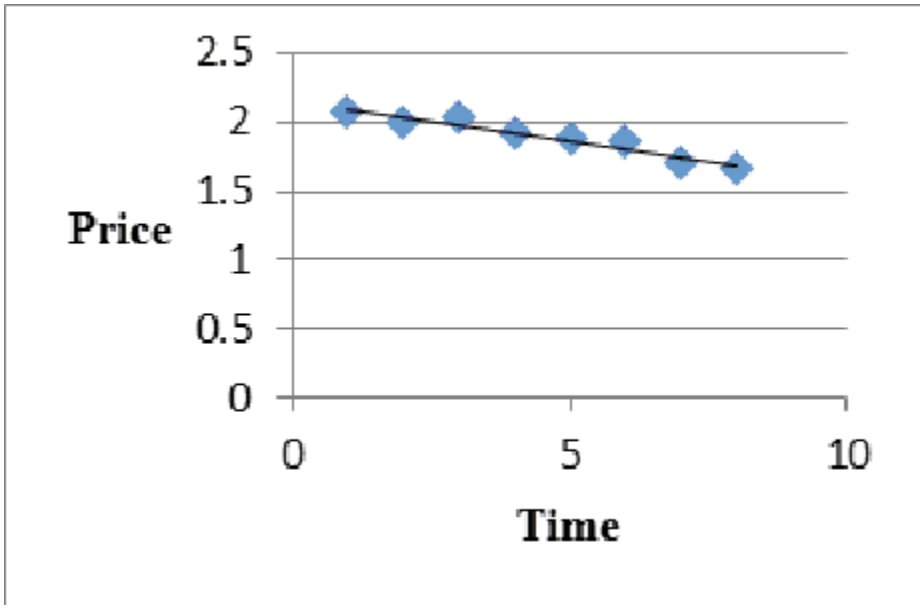
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37. The following data shows the price of PAO, Inc. stock over the last 8 months.

Month	Price
1	2.08
2	2.00
3	2.03
4	1.91
5	1.88
6	1.87
7	1.70
8	1.67

a. Develop a scatter diagram and draw a trend line through the points.
b. What kind of relationship exists between stock price and time (negative, positive, or no relation)?

ANSWER: a.



b. Negative

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.04 - Summarizing data for two variables using graphical displays
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
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38. Below you are given the examination scores of 20 students.

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52	99	92	86	84
63	72	76	95	88
92	58	65	79	80
90	75	74	56	99

a. Construct a frequency distribution for this data. Let the first class be 50 - 59.
b. Construct a cumulative frequency distribution.
c. Construct a relative frequency distribution.
d. Construct a cumulative relative frequency distribution.

ANSWER:

	a.	b.	c.	d.
Score	**Frequency**	**Cumulative Frequency**	**Relative Frequency**	**Cumulative Relative Frequency**
50 - 59	3	3	0.15	0.15
60 - 69	2	5	0.10	0.25
70 - 79	5	10	0.25	0.50
80 - 89	4	14	0.20	0.70
90 - 99	6	20	0.30	1.00
Total	20		1.00	

POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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39. The frequency distribution below was constructed from data collected from a group of 25 students.

Height (in Inches)	**Frequency**
58 - 63	3
64 - 69	5
70 - 75	2
76 - 81	6
82 - 87	4
88 - 93	3
94 - 99	2

a. Construct a relative frequency distribution.
b. Construct a cumulative frequency distribution.
c. Construct a cumulative relative frequency distribution.

ANSWER:

	a.	b.	c.
Height	**Relative**	**Cumulative**	**Cumulative Relative**

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	(In Inches)	Frequency	Frequency	Frequency	Frequency
	58 - 63	3	0.12	3	0.12
	64 - 69	5	0.20	8	0.32
	70 - 75	2	0.08	10	0.40
	76 - 81	6	0.24	16	0.64
	82 - 87	4	0.16	20	0.80
	88 - 93	3	0.12	23	0.92
	94 - 99	2	0.08	25	1.00
			1.00		

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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40. The frequency distribution below was constructed from data collected on the quarts of soft drinks consumed per week by 20 students.

Quarts of Soft Drink	Frequency
0 - 3	4
4 - 7	5
8 - 11	6
12 - 15	3
16 - 19	2

a. Construct a relative frequency distribution.
b. Construct a cumulative frequency distribution.
c. Construct a cumulative relative frequency distribution.

ANSWER:

			a.	b.	c.
	Quarts of Soft Drinks	Frequency	Relative Frequency	Cumulative Frequency	Cumulative Relative Frequency
	0 - 4	4	0.20	4	0.20
	4 - 8	5	0.25	9	0.45
	8 - 12	6	0.30	15	0.75
	12 - 16	3	0.15	18	0.90
	16 - 20	2	0.10	20	1.00
	Total	20	1.00		

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False

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STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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41. The grades of 10 students in their first management test are shown below.

94	61	96	66	92
68	75	85	84	78

a. Construct a frequency distribution. Let the first class be 60 - 69.
b. Construct a cumulative frequency distribution.
c. Construct a relative frequency distribution.

ANSWER:

	a.	b.	c.
Class	**Frequency**	**Cumulative Frequency**	**Relative Frequency**
60 - 69	3	3	0.3
70 - 79	2	5	0.2
80 - 89	2	7	0.2
90 - 99	3	10	0.3
Total	10		1.0

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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42. There are 800 students in the School of Business Administration. There are four majors in the School: Accounting, Finance, Management, and Marketing. The following shows the number of students in each major.

Major	**Number of Students**
Accounting	240
Finance	160
Management	320
Marketing	80

Develop a percent frequency distribution and construct a bar chart and a pie chart.

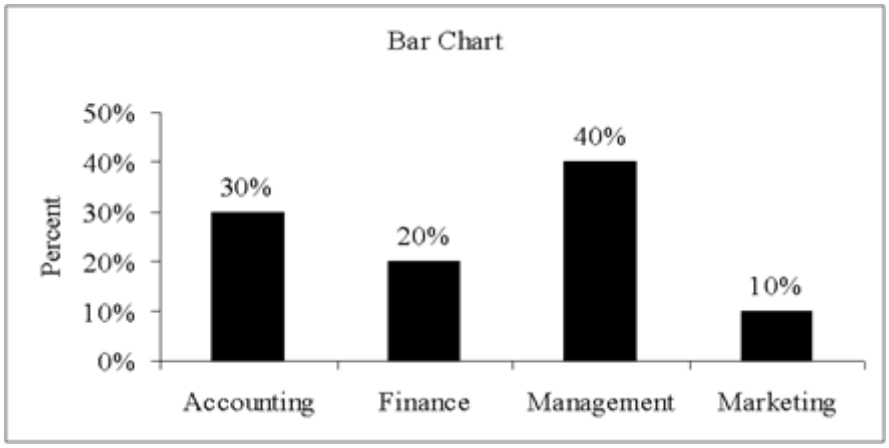
ANSWER:

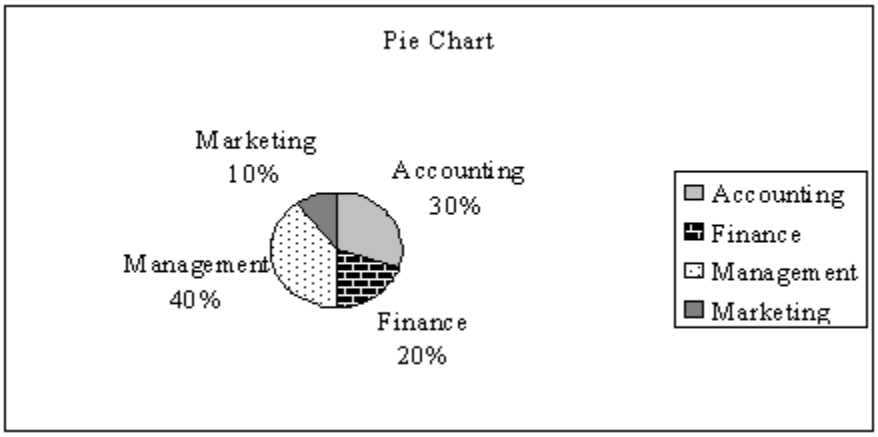
Major	**Percent Frequency**
Accounting	30%
Finance	20%

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Management 40%
Marketing 10%





POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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43. You are given the following data on the age of employees at a company. Construct a stem-and-leaf display.

26	32	28	45	58
52	44	36	42	27
41	53	55	48	32
42	44	40	36	37

ANSWER:

2 | 6	7	8			
3 | 2	2	6	6	7	

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4 | 0 1 2 2 4 4 5 8
5 | 2 3 5 8

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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44. Construct a stem-and-leaf display for the following data.

12	52	51	37	71	40	38	26	57	31
49	43	45	19	36	32	44	48	22	18

ANSWER:

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

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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45. The ACT scores of a sample of business school students and their genders are shown below.

		ACT Scores		
Gender	**Less than 20**	**20 up to 25**	**25 and more**	**Total**
Female	24	168	48	240
Male	40	96	24	160
Total	64	264	72	400

a. How many students scored less than 25?
b. How many students were male?

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c. Of the male students, how many scored 25 or more?
d. Compute row percentages and comment on any relationship that may exist between ACT scores and gender of the individuals.
e. Compute column percentages.

ANSWER:

a. 328
b. 160
c. 24

d.

	ACT Scores			
Gender	**Less than 20**	**20 up to 25**	**25 and more**	**Total**
Female	10%	70%	20%	100%
Male	25%	60%	15%	100%

From the above percentages it can be noted that the largest percentages of both genders' ACT scores are in the 20 to 25 range. However, 70% of females and only 60% of males have ACT scores in this range. Also it can be noted that 10% of females' ACT scores are under 20, whereas, 25% of males' ACT scores fall in this category.

e.

	SAT Scores		
Gender	**Less than 20**	**20 up to 25**	**25 and more**
Female	37.5%	63.6%	66.7%
Male	62.5%	36.4%	33.3%
Total	100%	100%	100%

POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply | Bloom's: Understand
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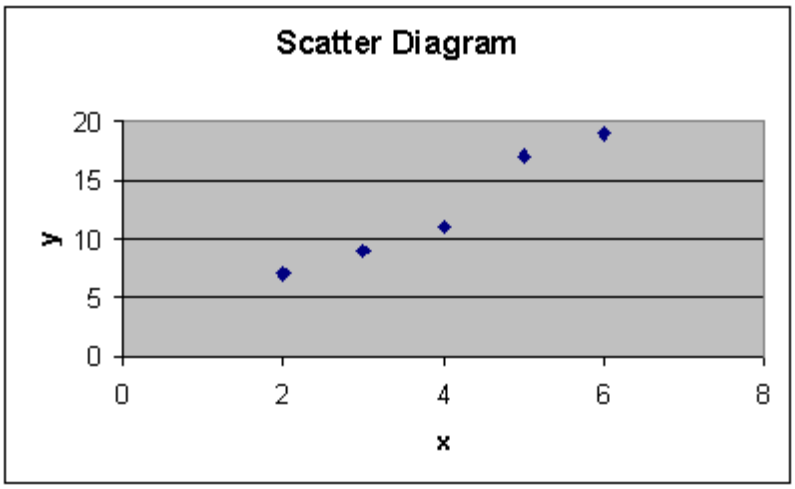
46. For the following observations, plot a scatter diagram and indicate what kind of relationship (if any) exists between x and y.

x	**y**
2	7
6	19
3	9
5	17
4	11

ANSWER: A positive relationship between x and y appears to exist.

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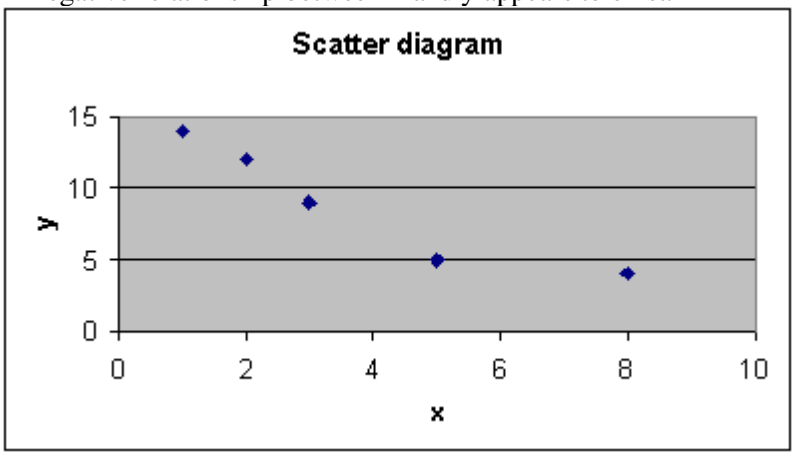


POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.04 - Summarizing data for two variables using graphical displays
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply | Bloom's: Understand
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47. For the following observations, plot a scatter diagram and indicate what kind of relationship (if any) exists between x and y.

x	**y**
8	4
5	5
3	9
2	12
1	14

ANSWER: A negative relationship between x and y appears to exist.



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POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.04 - Summarizing data for two variables using graphical displays
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply | Bloom's: Understand
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48. Five hundred recent graduates indicated their majors as follows:

Major	**Frequency**
Accounting	60
Finance	100
Economics	40
Management	120
Marketing	80
Engineering	60
Computer Science	40
Total	500

a. Construct a relative frequency distribution.
b. Construct a percent frequency distribution.

ANSWER:

		a.	b.
Major	**Frequency**	**Relative Frequency**	**Percent Frequency**
Accounting	60	0.12	12
Finance	100	0.20	20
Economics	40	0.08	8
Management	120	0.24	24
Marketing	80	0.16	16
Engineering	60	0.12	12
Computer Science	40	0.08	8
Total	500	1.00	100

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
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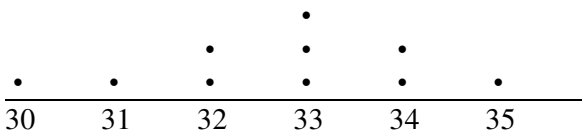
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49. A sample of the class sizes of 10 statistics classes at a university is shown below.

32	30	34	32	35
34	33	33	31	33

Construct a dot plot for the above data.

ANSWER:



POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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50. The following data set shows the number of hours of sick leave that some of the employees of Bastien's, Inc. have taken during the first quarter of the year (rounded to the nearest hour).

19	22	27	24	28	12
23	47	11	55	25	42
36	25	34	16	45	49
12	20	28	29	21	10
59	39	48	32	40	31

a. Develop a frequency distribution for the above data. (Let the width of your classes be 10 units and start your first class as 10 - 19.)
b. Develop a relative frequency distribution and a percent frequency distribution for the data.
c. Develop a cumulative frequency distribution.
d. How many employees have taken less than 40 hours of sick leave?

ANSWER:

Hours of Sick Leave Taken	a. **Freq.**	b. **Relative Freq.**	b. **Percent Freq.**	c. **Cum. Freq.**
10 - 19	6	0.20	20	6
20 - 29	11	0.37	37	17
30 - 39	5	0.16	16	22
40 - 49	6	0.20	20	28
50 - 59	2	0.07	7	30

d. 22

POINTS: 1

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DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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51. The sales records of a real estate company for the month of May shows the following house prices (rounded to the nearest $1,000). Values are in thousands of dollars.

105	55	45	85	75
30	60	75	79	95

a. Develop a frequency distribution and a percent frequency distribution for the house prices. (Use 5 classes and have your first class be 20 - 39.)
b. Develop a cumulative frequency and a cumulative percent frequency distribution for the above data.
c. What percentage of the houses are sold at a price below $80,000?

ANSWER:

	a.	a.	b.	b.
Sales Price (In Thousands of Dollars)	**Freq.**	**Percent Freq.**	**Cum. Freq.**	**Cum. Percent Freq.**
20 - 39	1	10	1	10
40 - 59	2	20	3	30
60 - 79	4	40	7	70
80 - 99	2	20	9	90
100 - 119	1	10	10	100

c. 70%

POINTS: 1
DIFFICULTY: Challenging
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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52. The test scores of 14 individuals on their first statistics examination are shown below.

95	87	52	43	77	84	78
75	63	92	81	83	91	88

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Construct a stem-and-leaf display for these data.

ANSWER:

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

POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Subjective Short Answer
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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KEYWORDS: Bloom's: Apply
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53. A survey of 400 college seniors resulted in the following crosstabulation regarding their undergraduate major and whether or not they plan to go to graduate school.

	Undergraduate Major			
Graduate School	Business	Engineering	Others	Total
Yes	35	42	63	140
No	91	104	65	260
Total	126	146	128	400

a. Are a majority of the seniors in the survey planning to attend graduate school?
b. Which discipline constitutes the majority of the individuals in the survey?
c. Compute row percentages and comment on the relationship between the students' undergraduate major and their intention of attending graduate school.
d. Compute the column percentages and comment on the relationship between the students' intention of going to graduate school and their undergraduate major.

ANSWER:

a. No, majority (260) will not attend graduate school
b. Majority (146) are engineering majors
c.

	Undergraduate Major			
Graduate School	Business	Engineering	Others	Total
Yes	25%	30%	45%	100%
No	35%	40%	25%	100%

Majority who plan to go to graduate school are from "Other" majors. Majority of those who will not go to graduate school are engineering majors.

d.

	Undergraduate Major		
Graduate School	Business	Engineering	Others
Yes	27.8%	28.8%	49.2%
No	72.2%	71.2%	50.8%
Total	100%	100%	100%

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	Approximately the same percentages of Business and engineering majors plan to attend graduate school (27.8% and 28.8% respectively). Of the "Other" majors approximately half (49.2%) plan to go to graduate school.
POINTS:	1
DIFFICULTY:	Challenging
QUESTION TYPE:	Subjective Short Answer
HAS VARIABLES:	False
STUDENT ENTRY MODE:	Basic
LEARNING OBJECTIVES:	BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS:	United States - BUSPROG: Analytic
STATE STANDARDS:	United States - AK - DISC: Descriptive Statistics
KEYWORDS:	Bloom's: Apply | Bloom's: Understand
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54. The proper way to construct a stem-and-leaf display for the data set {62, 67, 68, 73, 73, 79, 91, 94, 95, 97} is to
    a. exclude a stem labeled ‘8.
    b. include a stem labeled ‘8’ and enter no leaves on the stem.
    c. include a stem labeled ‘(8)’ and enter no leaves on the stem.
    d. include a stem labeled ‘8’ and enter one leaf value of ‘0’ on the stem.

ANSWER:	b
POINTS:	1
DIFFICULTY:	Easy
QUESTION TYPE:	Multiple Choice
HAS VARIABLES:	False
LEARNING OBJECTIVES:	BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS:	United States - BUSPROG: Analytic
STATE STANDARDS:	United States - AK - DISC: Descriptive Statistics
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55. Data that indicate how much or how many are known as
    a. categorical data.
    b. quantitative data.
    c. relative data.
    d. cumulative data.

ANSWER:	b
POINTS:	1
DIFFICULTY:	Easy
QUESTION TYPE:	Multiple Choice
HAS VARIABLES:	False
LEARNING OBJECTIVES:	BSST.ASWC.20.02.01 - Summarizing data for a categorical variable

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56. In a stem-and-leaf display,
    a. a single digit is used to define each stem, and a single digit is used to define each leaf.
    b. a single digit is used to define each stem, and one or more digits are used to define each leaf.
    c. one or more digits are used to define each stem, and a single digit is used to define each leaf.
    d. one or more digits are used to define each stem, and one or more digits are used to define each leaf.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
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57. A graphical method that can be used to show both the rank order and shape of a distribution of data simultaneously is a
    a. relative frequency distribution.
    b. pie chart.
    c. stem-and-leaf display.
    d. dot plot.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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58. A researcher is gathering data from four geographical areas designated: South = 1; North = 2; East = 3; West = 4. The designated geographical regions represent
    a. categorical data.

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b. quantitative data.
c. crosstabular data.
d. either categorical or quantitative data.

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: IMA: Reporting
KEYWORDS: Bloom's: Understand
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59. A graphical device for depicting categorical data that have been summarized in a frequency distribution, relative frequency distribution, or percent frequency distribution is a
a. histogram.
b. stem-and-leaf display.
c. dot plot.
d. bar chart.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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60. If several frequency distributions are constructed from the same data set, the distribution with the widest class width will have the
a. fewest classes.
b. most classes.
c. smallest total frequency.
d. largest total frequency.

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False

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LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
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61. In a crosstabulation
    a. both variables must be categorical.
    b. both variables must be quantitative.
    c. one variable must be categorical and the other must be quantitative.
    d. either or both variables can be categorical or quantitative.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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KEYWORDS: Bloom's: Remember
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62. A graphical presentation of the relationship between two quantitative variables is
    a. dot plot.
    b. histogram.
    c. stem-and-leaf display.
    d. scatter diagram.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.04 - Summarizing data for two variables using graphical displays
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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KEYWORDS: Bloom's: Remember
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63. Before drawing any conclusions about the relationship between two variables shown in a crosstabulation, you should
    a. investigate whether any hidden variables could affect the conclusions.
    b. construct a scatter diagram and find the trendline.

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c. develop a relative frequency distribution.
d. construct a dot plot and look for significant gaps.

ANSWER: a
POINTS: 1
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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64. When the conclusions based upon the unaggregated data can be completely reversed if we look at the aggregated crosstabulation, the occurrence is known as

a. Reverse correlation.
b. Negative correlation.
c. Simpson's paradox.
d. Pareto's rule.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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65. Which of the following types of data cannot be appropriately displayed by a histogram?

a. Frequency
b. Relative frequency
c. Cumulative frequency
d. Percent frequency

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable

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66. For stem-and-leaf displays where the leaf unit is not stated, the leaf unit is assumed to equal
    a. 0.
    b. -1.
    c. 1.
    d. 10.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
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67. Which of the following is least useful in making comparisons or showing the relationships of two variables?
    a. Stacked bar chart
    b. Stem-and-leaf display
    c. Crosstabulation
    d. Scatter diagram

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Understand
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68. Which of the following is not a recommended guideline for creating an effective graphical display?
    a. Give the display a clear and concise title
    b. Use three dimensions whenever possible, to give the display depth
    c. If colors are used to distinguish categories, use a legend to define them

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d. Label each axis and show the units of measure

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.05 - Data Visualization
NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Understand
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69. The approximate class width for a frequency distribution involving quantitative data can be determined using the expression

a. mean frequency/total frequency.
b. total frequency/class midpoint.
c. range/desired number of classes.
d. desired number of classes/class midpoint.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Remember
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70. In quality control applications, bar charts are used to identify the most important causes of problems. When the bars are arranged in descending order of height from left to right with the most frequently occurring cause appearing first, the bar chart is called a

a. Cause-and-effect diagram.
b. Ogive.
c. Pareto diagram.
d. Stacked bar chart.

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable

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NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
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71. A graphical tool typically associated with the display of key performance indicators is a
    a. side-by-side bar chart.
    b. stem-and-leaf display.
    c. stacked bar chart.
    d. data dashboard.

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.05 - Data Visualization
NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Remember
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72. A display used to compare the frequency, relative frequency or percent frequency of two categorical variables is a
    a. scatter diagram.
    b. stacked bar chart.
    c. pie chart.
    d. stem-and-leaf display.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.04 - Summarizing data for two variables using graphical displays
NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Remember
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73. A sample of 15 children shows their favorite kind of pet:

Dog	Gerbil	Cat
Fish	Dog	Dog
Gerbil	Cat	Dog

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Cat	Lizard	Fish
Dog	Fish	Dog

Which of the following distributions would be inappropriate for this data?

a. Frequency
b. Relative frequency
c. Cumulative frequency
d. Percent frequency

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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74. A survey of 800 college seniors resulted in the following crosstabulation regarding their undergraduate major and whether or not they plan to go to graduate school.

	Undergraduate Major			
Graduate School	**Business**	**Engineering**	**Others**	**Total**
Yes	70	84	126	280
No	182	208	130	520
Total	252	292	256	800

Of those students who are planning on going to graduate school, what percentage are majoring in engineering?

a. 10.5
b. 28.8
c. 30.0
d. 40.4

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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75. Histograms based on data on housing prices and salaries typically are

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a. skewed to the left.
b. skewed to the right.
c. stacked.
d. symmetric.

ANSWER: b
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Reflective Thinking
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Understand
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76. A sample of 15 children shows their favorite kind of pet:

Dog	Gerbil	Cat
Fish	Dog	Dog
Gerbil	Cat	Dog
Cat	Lizard	Fish
Dog	Fish	Dog

Which of the following displays is most appropriate for this data?
a. Side-by-side bar chart
b. Histogram
c. Stacked bar chart
d. Pie chart

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.01 - Summarizing data for a categorical variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
STATE STANDARDS: United States - AK - DISC: Descriptive Statistics
KEYWORDS: Bloom's: Apply
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77. A survey of 800 college seniors resulted in the following crosstabulation regarding their undergraduate major and whether or not they plan to go to graduate school.

	Undergraduate Major			
Graduate School	**Business**	**Engineering**	**Others**	**Total**
Yes	70	84	126	280

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No	182	208	130	520
Total	252	292	256	800

The above crosstabulation shows

a. frequencies.
b. row percentages.
c. column percentages.
d. overall percentages.

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.03 - Summarizing data for two variables using tables
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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KEYWORDS: Bloom's: Apply
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78. The numbers of hours worked (per week) by 400 statistics students are shown below.

Number of hours	**Frequency**
0 - 9	20
10 - 19	80
20 - 29	200
30 - 39	100

The cumulative percent frequency for $\leq$ 29 hours is

a. 50.
b. 75.
c. 200.
d. 300.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: BSST.ASWC.20.02.02 - Summarizing data for a quantitative variable
NATIONAL STANDARDS: United States - BUSPROG: Analytic
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