

Exam

Name _____

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

1) Consider the following frequency distribution.

1) _____

Number of Customers	Frequency
0-2	10
3-5	7
6-10	12
11-15	5

Which rule for constructing a frequency distribution using grouped quantitative data has been violated?

A) Use mutually exclusive classes.

B) Use equal-size classes.

C) Avoid empty classes.

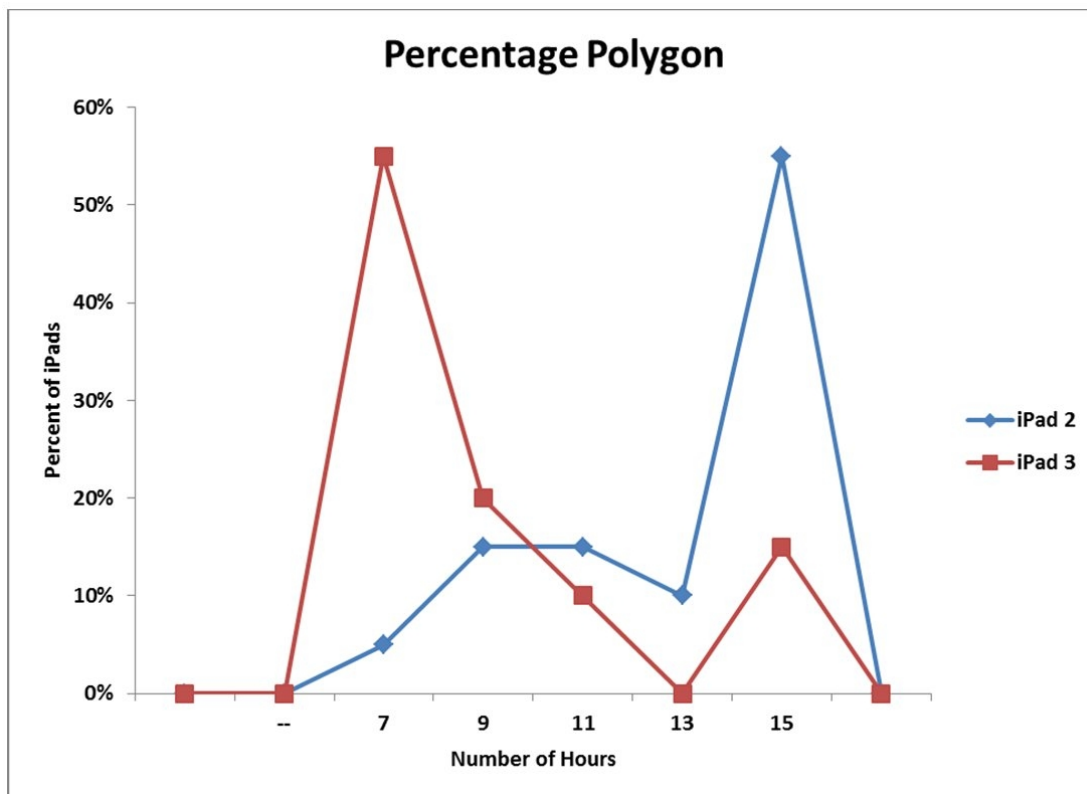
D) No rule has been violated.

Answer: B

Explanation: A)
B)
C)
D)

2) The following graph is a percent polygon showing the battery life, in hours, for a sample of iPad 2s and iPad 3s. The diamond markers represent the iPad 2 battery life while the square markers represent the iPad 3 battery life. Based on this graph, which of the following statements is true?

2) _____



A) The battery life of the iPad 2 tends to be longer than the battery life of the iPad 3.

- B) The battery life of the iPad 3 tends to be longer than the battery life of the iPad 2.
 C) The battery life of the iPad 3 tends to be about the same as the battery life of the iPad 2.
 D) The difference in battery life between the iPad 2 and iPad 3 cannot be detected with this graph.

Answer: A

Explanation: A)
 B)
 C)
 D)

3) Consider the following frequency distribution.

3) _____

Number of Minutes	Frequency
0 to less than 5	6
5 to less than 10	9
8 to less than 13	14
13 to less than 18	2

Which rule for constructing a frequency distribution using grouped quantitative data has been violated?

- A) Avoid empty classes.
 B) Use mutually exclusive classes.
 C) Use equal-size classes.
 D) No rule has been violated.

Answer: B

Explanation: A)
 B)
 C)
 D)

4) The following frequency distribution displays the daily sales of muffins at Avalon Bakery.

4) _____

Number Sold	Frequency
1 - 7	5
8 - 14	8
15 - 21	13
22 - 28	21
27 - 35	3

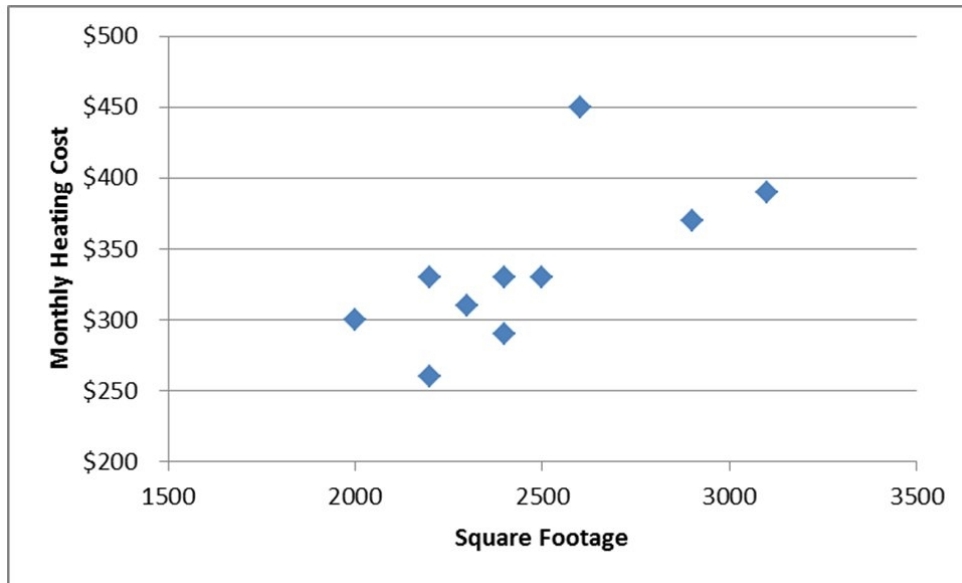
How many weeks of data are included in this frequency distribution?

- A) 50
 B) 75
 C) 100
 D) 25

Answer: A

Explanation: A)
 B)
 C)
 D)

- 5) The following graph shows the square footage of 10 homes along with their corresponding heating cost for the most recent month. 5) _____



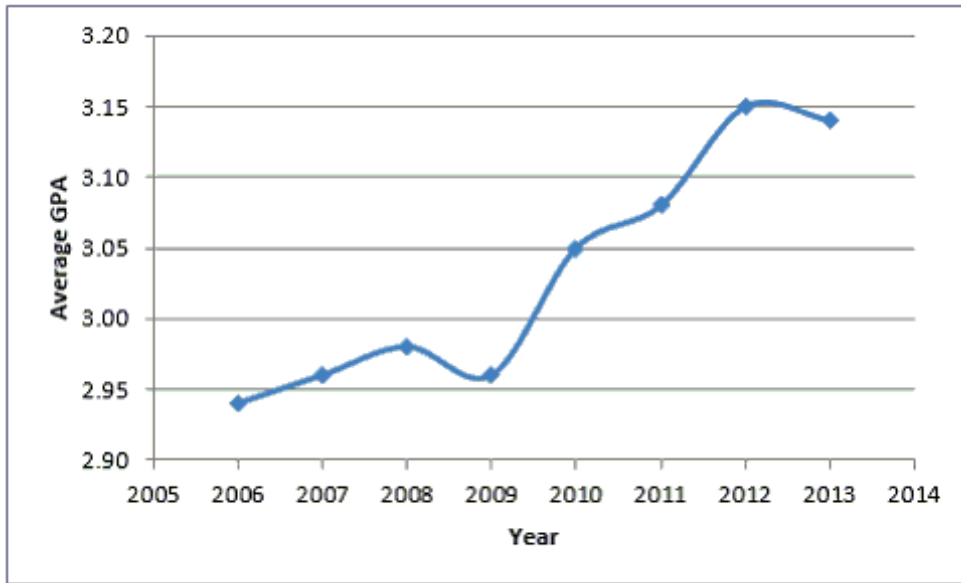
Which one of the following statements is not correct?

- A) Monthly heating cost is the dependent variable in the graph.
- B) Square footage is the independent variable in the graph.
- C) As the square footage of the home increases, the monthly heating cost tends to decrease.
- D) As the square footage of the home increases, the monthly heating cost tends to increase.

Answer: C

Explanation: A)
B)
C)
D)

- 6) The following graph shows the average grade point average for a particular college from 2006 until 2013. 6) _____



This graph is an example of a _____.

- A) vertical bar chart
B) histogram
C) Pareto chart
D) line chart

Answer: D

Explanation: A)
B)
C)
D)

- 7) The following distribution shows the frequency of daily revenue for an Italian restaurant in Wilmington, Delaware. 7) _____

Revenue	Frequency
Under \$2,000	18
\$2,000 to under \$4,000	10
\$4,000 to under \$6,000	26
\$6,000 to under \$8,000	14
\$8,000 to under \$10,000	8
Over \$10,000	4

What is the probability that a randomly selected day will generate more than \$6,000 in revenue?

- A) 0.650
B) 0.900
C) 0.325
D) 0.775

Answer: C

Explanation: A)
B)
C)
D)

8) _____ display the proportion of observations of each class relative to the total number of observations.

8) _____

- A) Cumulative relative frequency distributions
- B) Frequency distributions
- C) Histograms
- D) Relative frequency distributions

Answer: D

Explanation: A)
B)
C)
D)

9) A stem and leaf display most resembles a _____.

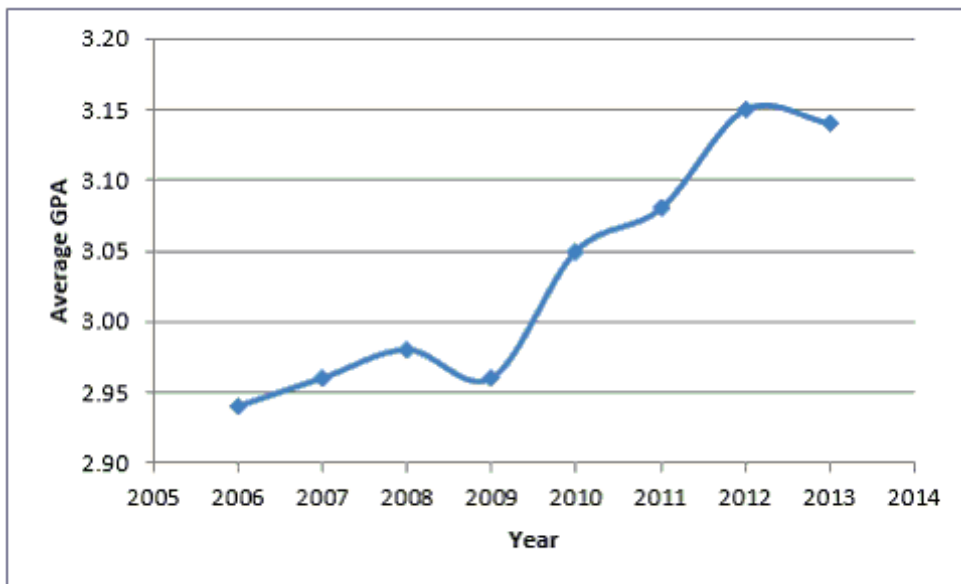
9) _____

- A) histogram
- B) pie chart
- C) relative frequency distribution
- D) contingency table

Answer: A

Explanation: A)
B)
C)
D)

- 10) The following graph shows the average grade point average for a particular college from 2006 until 2013. 10) _____



Which one of the following statements is correct?

- A) Average GPA is the dependent variable in the graph.
- B) Historically, the Average GPA of the college tends to decrease.
- C) There appears to be no relationship between Year and Average GPA.
- D) Year is the dependent variable in the graph.

Answer: A

Explanation: A)
B)
C)
D)

- 11) The following frequency distribution displays the daily sales of muffins at Avalon Bakery. 11) _____

Number Sold	Frequency
1 - 7	5
8 - 14	8
15 - 21	13
22 - 28	21
27 - 35	3

What is the probability that between 15 to 21 muffins will be sold tomorrow?

- A) 0.44
- B) 0.26
- C) 0.50
- D) 0.36

Answer: B

Explanation: A)
B)
C)
D)

12) _____ charts are a specific type of bar chart used in quality control programs by businesses to graphically display the causes of problems. 12) _____

- A) Stacked bar B) Pareto C) Clustered bar D) Pie

Answer: B

Explanation: A)
B)
C)
D)

13) A(n) _____ is a category in a frequency distribution. 13) _____

- A) histogram B) class C) ogive D) polygon

Answer: B

Explanation: A)
B)
C)
D)

14) The following table shows the percentage of U.S. energy consumption according to sources in 2009. 14) _____

Source	Percentage
Petroleum	37%
Natural Gas	25%
Coal	21%
Nuclear	9%
All renewable	8%

Which of the following best displays this data?

- A) pie chart B) histogram
C) horizontal bar chart D) vertical bar chart

Answer: A

Explanation: A)
B)
C)
D)

15) The _____ graphs the midpoint of each class as a line rather than a column. 15) _____

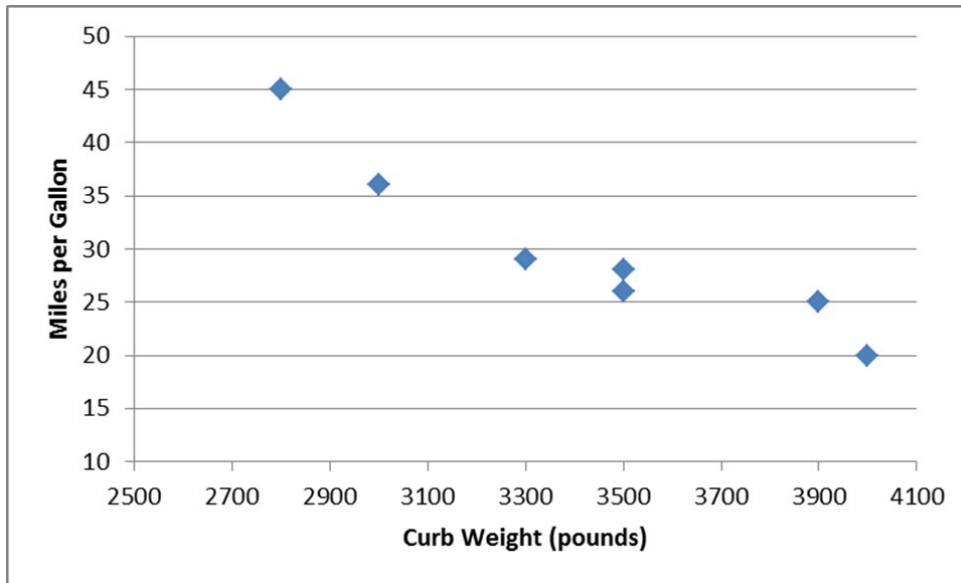
- A) bar chart B) scatter plot
C) histogram D) percentage polygon

Answer: D

Explanation: A)
B)
C)
D)

- 16) The following graph shows the curb weight of seven cars, in pounds, along with their corresponding highway miles per gallon.

16) _____



Which one of the following statements is correct?

- A) Miles per gallon is the independent variable in the graph.
- B) As the curb weight increases, the highway miles per gallon tend to increase.
- C) Curb weight is the dependent variable in the graph.
- D) As the curb weight increases, the highway miles per gallon tend to decrease.

Answer: D

Explanation: A)
B)
C)
D)

- 17) Class _____ are the number of observations for each class of a frequency distribution using grouped quantitative data.

17) _____

- A) widths
- B) numbers
- C) frequencies
- D) boundaries

Answer: C

Explanation: A)
B)
C)
D)

- 18) When you want to compare the shape of two or more distributions on one graph, a _____ is your best choice

18) _____

- A) frequency distribution
- B) percentage polygon
- C) relative frequency distribution
- D) histogram

Answer: B

Explanation: A)
B)
C)
D)

19) A data set has 60 observations with a minimum value equal to 30 and a maximum value equal to 72. The estimated class width using the $2^k \geq n$ rule to determine the number of classes is

19) _____

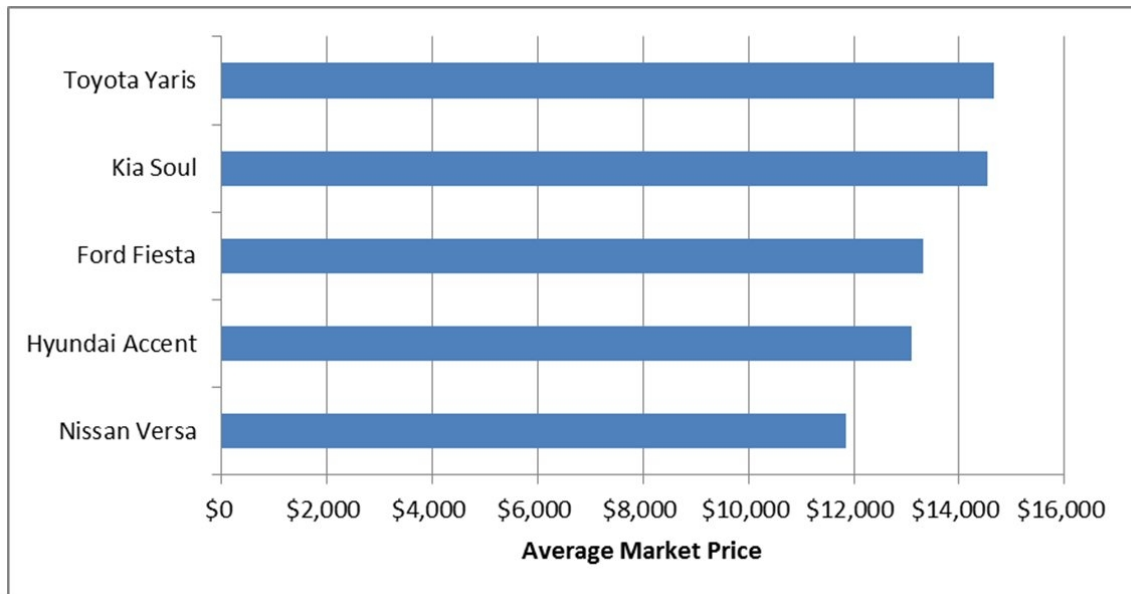
- A) 9. B) 12. C) 10. D) 7.

Answer: D

Explanation: A)
 B)
 C)
 D)

20) The following chart shows the average market price for five brands of cars in March 2013.

20) _____



Which of the following statements is not correct?

- A) The Nissan Versa has the lowest average market value.
B) The Hyundai Accent has a lower average market price than the Nissan Versa.
C) The Hyundai Accent has a lower average market price than the Toyota Yaris.
D) The Kia Soul has a higher average market price than the Ford Fiesta.

Answer: B

Explanation: A)
 B)
 C)
 D)

- 21) The following distribution shows the frequency of daily revenue for an Italian restaurant in Wilmington, Delaware.

21) _____

Revenue	Frequency
Under \$2,000	18
\$2,000 to under \$4,000	10
\$4,000 to under \$6,000	26
\$6,000 to under \$8,000	14
\$8,000 to under \$10,000	8
Over \$10,000	4

How many business days does this frequency distribution represent?

- A) 18 B) 80 C) 32 D) 100

Answer: B

Explanation: A)
B)
C)
D)

- 22) The following frequency distribution displays the daily sales of muffins at Avalon Bakery.

22) _____

Number Sold	Frequency
1 - 7	5
8 - 14	8
15 - 21	13
22 - 28	21
27 - 35	3

What is the probability that 21 or fewer muffins will be sold tomorrow?

- A) 0.92 B) 0.52 C) 0.80 D) 0.66

Answer: A

Explanation: A)
B)
C)
D)

- 23) Porter Automotive is a car dealership that sells Buicks and Hondas. The following data shows the number of buyers this month according to the brand of car they purchased as well as their age group.

23) _____

Age	Buick	Honda
Under 40 years old	6	17
40 years or older	19	8

The percentage of buyers who are under 40 old in this data is _____.

- A) 54% B) 50% C) 46% D) 20%

Answer: C

Explanation: A)
B)
C)
D)

24) Consider the following stem and leaf display.

24) _____

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

Which of the following statements is correct?

- A) This largest data value is 59.
- B) The class 50-59 contains the most values.
- C) There are a total of 10 data values in this data set.
- D) The data value that occurs most often is 50.

Answer: B

Explanation: A)
 B)
 C)
 D)

25) _____ group several values in a single column within the same category in a vertical direction.

25) _____

- A) Pie charts
- B) Clustered bar charts
- C) Scatter plots
- D) Stacked bar charts

Answer: D

Explanation: A)
 B)
 C)
 D)

26) _____ data are values based on observations that can be counted and are typically represented by whole numbers.

26) _____

- A) Continuous
- B) Nominal
- C) Discrete
- D) Time series

Answer: C

Explanation: A)
 B)
 C)
 D)

27) The following distribution shows the frequency of daily revenue for an Italian restaurant in Wilmington, Delaware.

27) _____

Revenue	Frequency
Under \$2,000	18
\$2,000 to under \$4,000	10
\$4,000 to under \$6,000	26
\$6,000 to under \$8,000	14
\$8,000 to under \$10,000	8
Over \$10,000	4

What is the probability that a randomly selected day will generate under \$2,000 in revenue?

A) 0.500

B) 0.050

C) 0.225

D) 0.160

Answer: C

Explanation: A)
B)
C)
D)

28) The class _____ is the breadth, or range, of numbers we plan to put into each class of a frequency distribution using grouped quantitative data.

28) _____

A) frequency

B) width

C) number

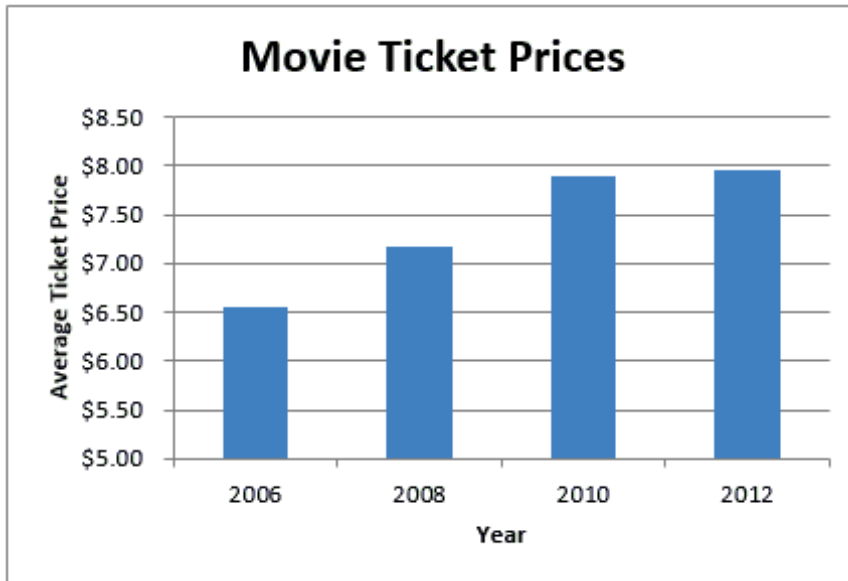
D) boundary

Answer: B

Explanation: A)
B)
C)
D)

29) The following chart shows the average movie ticket price according to a survey by the National Association of Theater Owners.

29) _____



Which of the following statements is not correct?

- A) The highest average ticket price occurred in 2012.
- B) The average ticket price in 2010 was higher than the average ticket price in 2008.
- C) The average ticket price has decreased over time.
- D) The lowest average ticket price occurred in 2006.

Answer: C

Explanation: A)
B)
C)
D)

30) The following chart shows the average market price for five brands of cars in March 2013.

30) _____



This chart is an example of a _____ bar chart.

A) vertical

B) clustered

C) horizontal

D) stacked

Answer: C

Explanation:

A)

B)

C)

D)

31) In Excel, contingency tables are known as _____.

A) pivot tables

B) frequency distributions

C) bar charts

D) bins

Answer: A

Explanation:

A)

B)

C)

D)

31) _____

32) The following distribution shows the frequency of daily revenue for an Italian restaurant in Wilmington, Delaware.

32) _____

Revenue	Frequency
Under \$2,000	18
\$2,000 to under \$4,000	10
\$4,000 to under \$6,000	26
\$6,000 to under \$8,000	14
\$8,000 to under \$10,000	8
Over \$10,000	4

What is the probability that a randomly selected day will generate between \$2,000 and under \$4,000 in revenue?

A) 0.325

B) 0.500

C) 0.100

D) 0.125

Answer: D

Explanation: A)
B)
C)
D)

33) A _____ chart is a special type of scatter plot in which the data points in the scatter plot are connected with a line.

33) _____

A) pie

B) Pareto

C) bar

D) line

Answer: D

Explanation: A)
B)
C)
D)

34) _____ totals the proportion of observations that are less than or equal to the class at which you are looking.

34) _____

A) Histograms

B) Relative frequency distributions

C) Cumulative relative frequency distributions

D) Frequency distributions

Answer: C

Explanation: A)
B)
C)
D)

- 35) Porter Automotive is a car dealership that sells Buicks and Hondas. The following data shows the number of buyers this month according to the brand of car they purchased as well as their age group. 35) _____

Age	Buick	Honda
Under 40 years old	6	17
40 years or older	19	8

Which one of the following statements is true based on the data?

- A) There are fewer Buick owners than Honda owners in this data.
- B) Honda owners tend to be older than Buick owners.
- C) Buick owners tend to be older than Honda owners.
- D) There are more Buick owners than Honda owners in this data.

Answer: C

Explanation: A)
B)
C)
D)

- 36) Consider the following stem and leaf display. 36) _____

```

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

```

Which data value occurs most often?

- A) 31
- B) 1
- C) 5
- D) 59

Answer: A

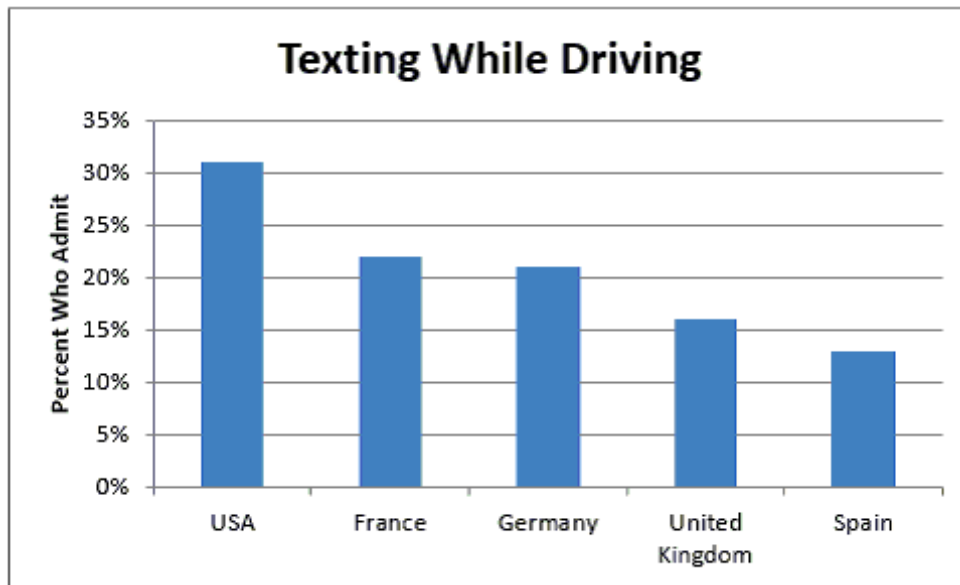
Explanation: A)
B)
C)
D)

- 37) _____ provide a picture of the relationship between two data points that are paired together. 37) _____
- A) Histograms
 - B) Scatter plots
 - C) Pareto charts
 - D) Pie charts

Answer: B

Explanation: A)
B)
C)
D)

38) The following chart shows the percentage of adults from various countries who admitted to texting while driving in a recent survey. 38) _____



This chart is an example of a _____ bar chart.

A) horizontal

B) stacked

C) vertical

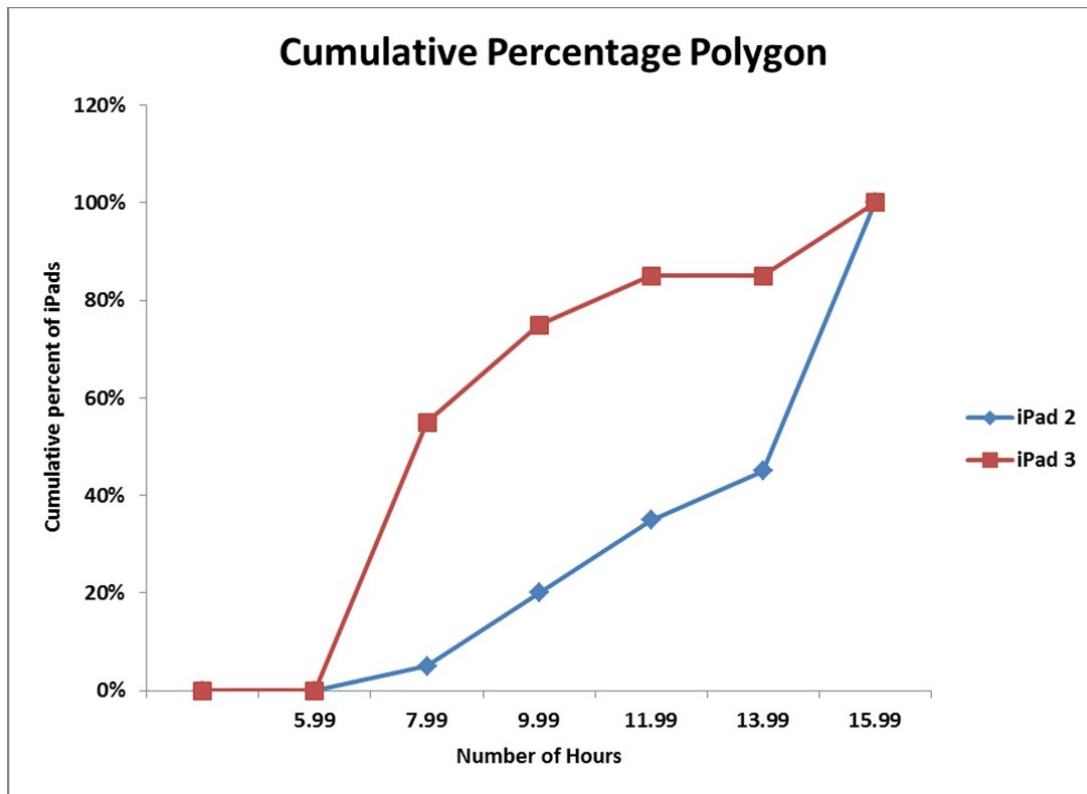
D) clustered

Answer: C

Explanation: A)
B)
C)
D)

39) The following graph is a cumulative percent polygon showing the battery life, in hours, for a sample of iPad 2s and iPad 3s. The diamond markers represent the iPad 2 battery life while the square markers represent the iPad 3 battery life. Based on this graph, which of the following statements is true?

39) _____

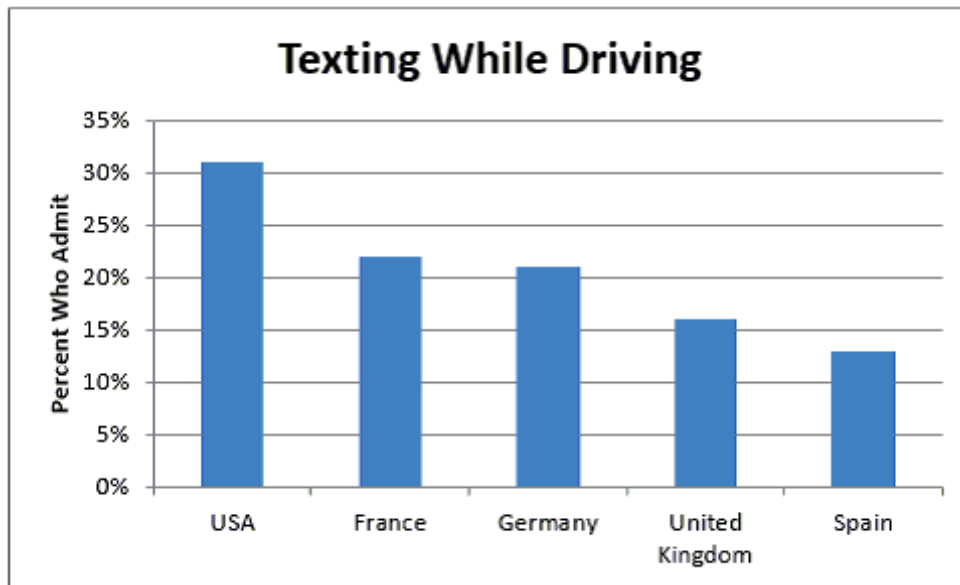


- A) Approximately 20% of the iPad 2 batteries lasted less than 10 hours.
- B) Approximately 20% of the iPad 2 batteries lasted more than 10 hours.
- C) Approximately 60% of the iPad 3 batteries lasted more than 8 hours.
- D) Approximately 80% of the iPad 3 batteries lasted less than 8 hours.

Answer: A

Explanation: A)
B)
C)
D)

- 40) The following chart shows the percentage of adults from various countries who admitted to texting while driving in a recent survey. 40) _____



Which of the following statements is not correct?

- A) The United Kingdom has a higher percentage of adults who admit to texting while driving when compared to Germany.
- B) The United Kingdom has a lower percentage of adults who admit to texting while driving when compared to France.
- C) The USA has the highest percentage of adults who admitted to texting while driving.
- D) Spain has the lowest percentage of adults who admitted to texting while driving.

Answer: A

Explanation: A)
B)
C)
D)

- 41) The following frequency distribution displays the daily sales of muffins at Avalon Bakery. 41) _____

Number Sold	Frequency
1 - 7	5
8 - 14	8
15 - 21	13
22 - 28	21
27 - 35	3

What is the probability that between 20 and 35 muffins will be sold tomorrow?

- A) 0.66
- B) 0.14
- C) 0.58
- D) 0.48

Answer: D

Explanation: A)
B)
C)
D)

- 42) Porter Automotive is a car dealership that sells Buicks and Hondas. The following data shows the number of buyers this month according to the brand of car they purchased as well as their age group. 42) _____

Age	Buick	Honda
Under 40 years old	6	17
40 years or older	19	8

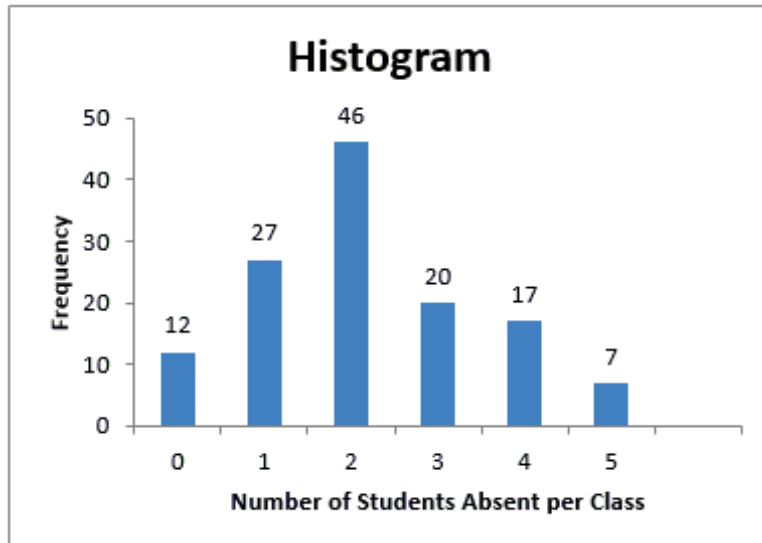
The percentage of buyers 40 years or older who purchased a Honda is _____.

- A) 34% B) 16% C) 38% D) 12%

Answer: B

Explanation: A)
B)
C)
D)

- 43) A statistics professor kept attendance records and recorded the number of absent students per class. 43) _____
This data is displayed in the following histogram with the frequency of each number of absent students shown above the bars.



How many statistics classes had two or fewer students absent?

- A) 9 B) 85 C) 42 D) 40

Answer: B

Explanation: A)
B)
C)
D)

44) Which of the following is not a rule for constructing a frequency distribution using grouped quantitative data?

44) _____

- A) Avoid empty classes.
- C) Use equal-size classes.

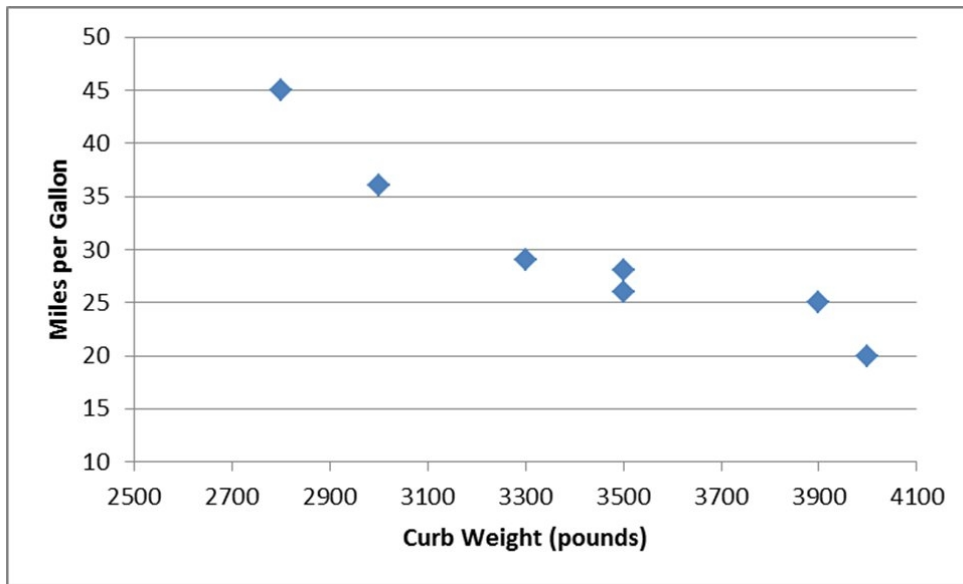
- B) Avoid close-ended classes.
- D) Use mutually exclusive classes.

Answer: B

Explanation: A)
B)
C)
D)

45) The following graph shows the curb weight of seven cars, in pounds, along with their corresponding highway miles per gallon.

45) _____



This graph is an example of a _____.

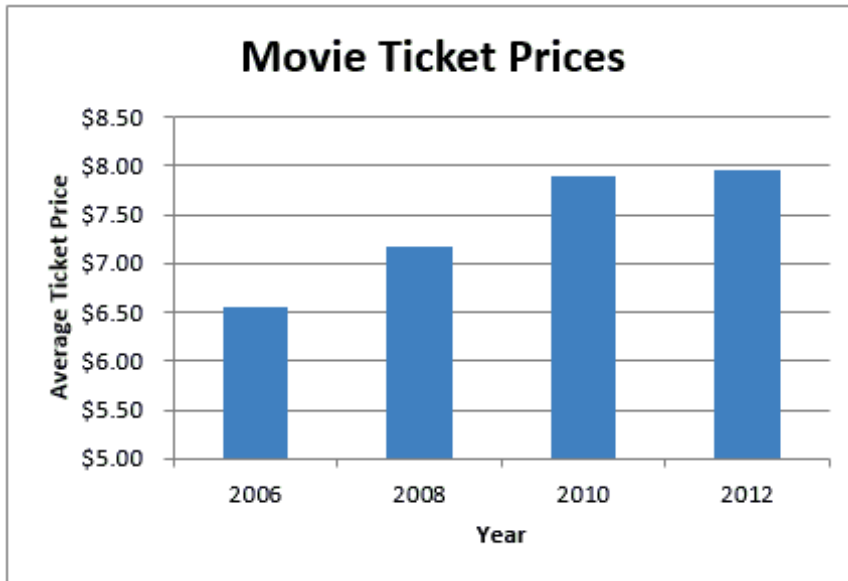
- A) Pareto chart
- B) scatter plot
- C) line chart
- D) histogram

Answer: B

Explanation: A)
B)
C)
D)

46) The following chart shows the average movie ticket price according to a survey by the National Association of Theater Owners.

46) _____



This chart is an example of a _____ chart.

A) Pareto

B) vertical bar

C) stacked bar

D) horizontal bar

Answer: B

Explanation:

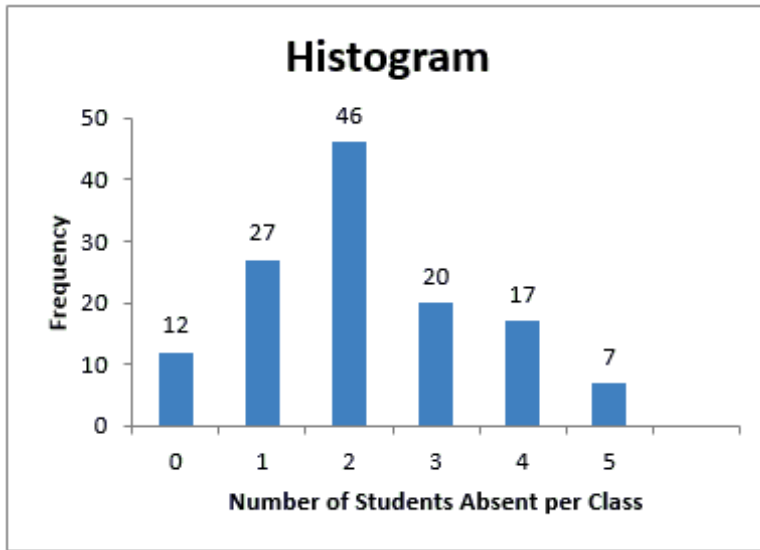
A)

B)

C)

D)

- 47) A statistics professor kept attendance records and recorded the number of absent students per class. This data is displayed in the following histogram with the frequency of each number of absent students shown above the bars. 47) _____



How many total classes do these data represent?

- A) 150 B) 100 C) 46 D) 129

Answer: D

Explanation: A)
B)
C)
D)

- 48) The class _____ represent the minimum and maximum values for each class of a frequency distribution using grouped quantitative data. 48) _____

- A) numbers B) boundaries C) frequencies D) widths

Answer: B

Explanation: A)
B)
C)
D)

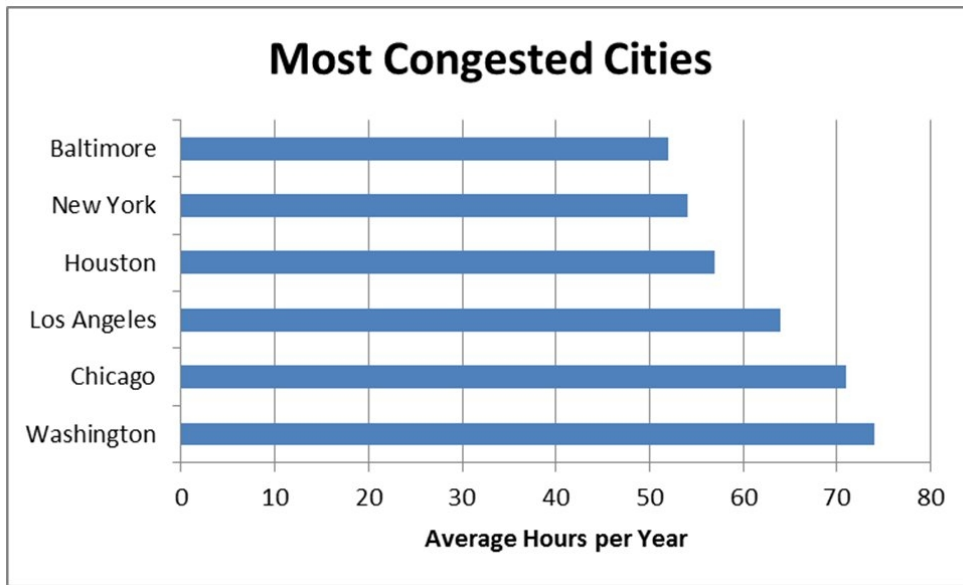
- 49) A data set has 60 observations with a minimum value equal to 30 and a maximum value equal to 72. The number of classes using the $2^k \geq n$ rule is 49) _____

- A) 6. B) 7. C) 8. D) 5.

Answer: A

Explanation: A)
B)
C)
D)

50) The following chart shows the average number of hours commuters spend in traffic delays per year at the six most congested cities in the U.S. 50) _____



Which of the following statements is not correct?

- A) Houston commuters have a higher average number of hours spent per year in traffic delays when compared to New York commuters.
- B) Chicago commuters have the highest average number of hours spent per year in traffic delays.
- C) Baltimore commuters have the lowest average number of hours spent per year in traffic delays.
- D) Los Angeles commuters have a lower average number of hours spent per year in traffic delays when compared to Washington commuters.

Answer: B

Explanation: A)
B)
C)
D)

51) Porter Automotive is a car dealership that sells Buicks and Hondas. The following data shows the number of buyers this month according to the brand of car they purchased as well as their age group.

51) _____

Age	Buick	Honda
Under 40 years old	6	17
40 years or older	19	8

This data is an example of a _____.

- A) contingency table
- C) histogram

- B) stem and leaf diagram
- D) relative frequency distribution

Answer: A

Explanation: A)
B)
C)
D)

52) Consider the following frequency distribution.

52) _____

Number of Minutes	Frequency
0 to less than 5	3
5 to less than 10	11
10 to less than 15	10
15 to less than 20	7

Which rule for constructing a frequency distribution using grouped quantitative data has been violated?

- A) Avoid empty classes.
- C) Use equal-size classes.

- B) Use mutually exclusive classes.
- D) No rule has been violated.

Answer: D

Explanation: A)
B)
C)
D)

53) The _____ is a line graph that plots the cumulative relative frequency distribution.

53) _____

- A) scatter plot
- C) ogive

- B) percentage polygon
- D) histogram

Answer: C

Explanation: A)
B)
C)
D)

54) The following distribution shows the frequency of daily revenue for an Italian restaurant in Wilmington, Delaware.

54) _____

Revenue	Frequency
Under \$2,000	18
\$2,000 to under \$4,000	10
\$4,000 to under \$6,000	26
\$6,000 to under \$8,000	14
\$8,000 to under \$10,000	8
Over \$10,000	4

What is the width of each class for this distribution?

A) \$8,000

B) \$5,00

C) \$2,000

D) \$10,000

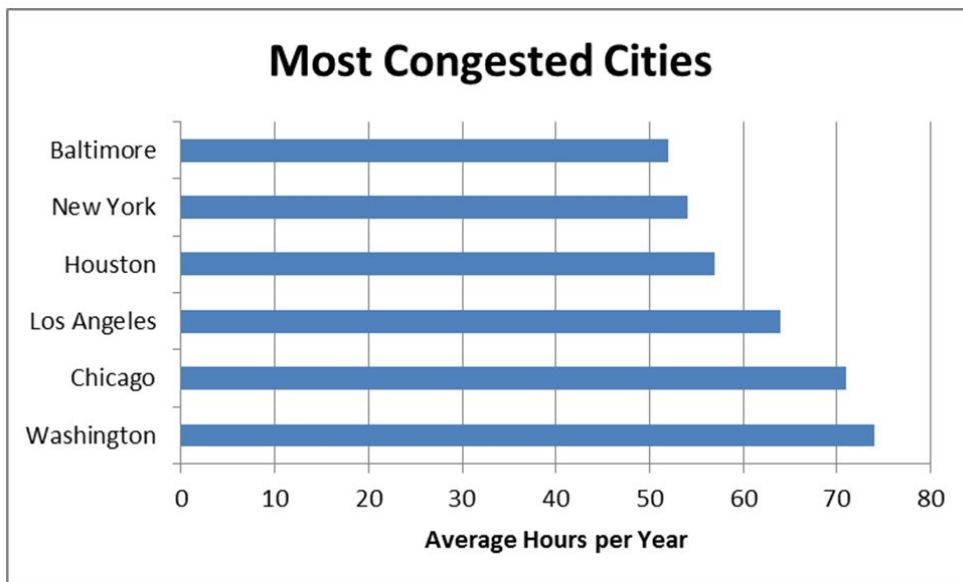
0

Answer: C

Explanation: A)
B)
C)
D)

55) The following chart shows the average number of hours commuters spend in traffic delays per year at the six most congested cities in the U.S.

55) _____



This chart is an example of a

A) vertical bar chart.

B) horizontal bar chart.

C) Pareto chart.

D) stacked bar chart.

Answer: B

Explanation: A)
B)
C)
D)

56) A _____ is a graph showing the number of observations in each class of a frequency distribution.

56) _____

- A) relative frequency distribution
- C) histogram

- B) polygon
- D) frequency distribution

Answer: C

Explanation: A)
B)
C)
D)

57) Bins in Excel represent the

57) _____

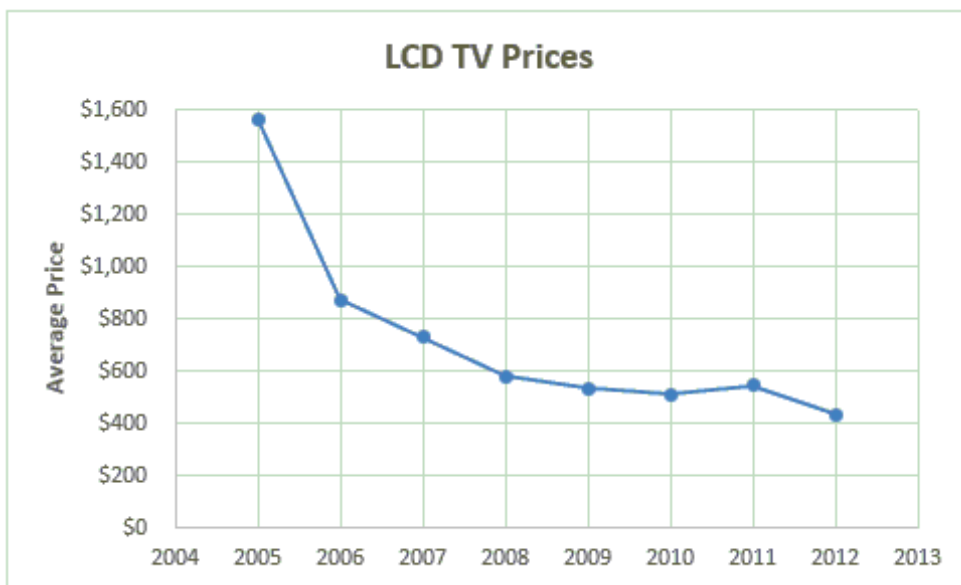
- A) upper boundary of each class in a frequency distribution.
- B) width of each class in a frequency distribution.
- C) number of classes in a frequency distribution.
- D) lower boundary of each class in a frequency distribution.

Answer: A

Explanation: A)
B)
C)
D)

58) The following graph shows the average price of LCD TVs from 2005 until 2012.

58) _____



This graph is an example of a _____.

- A) histogram
- C) line chart

- B) vertical bar chart
- D) Pareto chart

Answer: C

Explanation: A)
B)
C)
D)

59) A _____ is a table that shows the number of data observations that fall into specific intervals.

59) _____

A) histogram

B) percent polygon

C) frequency distribution

D) Pareto chart

Answer: C

Explanation: A)
B)
C)
D)

60) The following frequency distribution displays the daily sales of muffins at Avalon Bakery.

60) _____

Number Sold	Frequency
1 - 7	5
8 - 14	8
15 - 21	13
22 - 28	21
27 - 35	3

What is the width of each class in this distribution?

A) 10

B) 7

C) 1

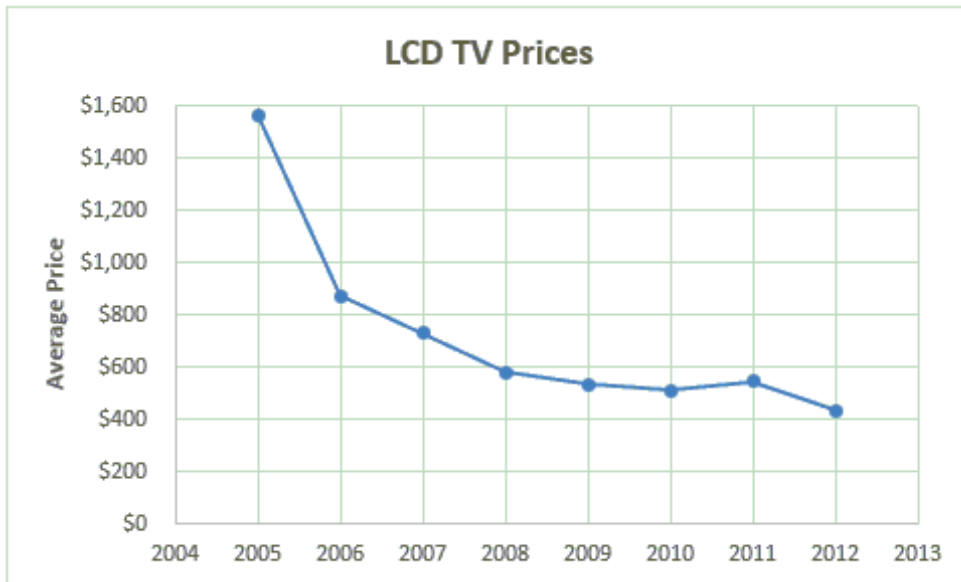
D) 35

Answer: B

Explanation: A)
B)
C)
D)

61) The following graph shows the average price of LCD TVs from 2005 until 2012.

61) _____



Which one of the following statements is correct?

- A) Historically, the average price of LCD TVs tends to decrease.
- B) Year is the dependent variable in the graph.
- C) Historically, the average price of LCD TVs tends to increase.
- D) Average Price is the independent variable in the graph.

Answer: A

Explanation: A)
B)
C)
D)

62) _____ provide a format to display observations that have more than one value associated with them.

62) _____

- A) Histograms
- B) Contingency tables
- C) Pie charts
- D) Frequency distributions

Answer: B

Explanation: A)
B)
C)
D)

63) The following table shows the percentage of e-mails that are sent each day of the business week according to an Intermedia survey.

63) _____

Day	Percentage
Monday	15%
Tuesday	23%
Wednesday	22%
Thursday	21%
Friday	19%

Which of the following best displays this data?

A) histogram

B) pie chart

C) vertical bar chart

D) horizontal bar chart

Answer: B

Explanation: A)
B)
C)
D)

64) _____ group several values side by side within the same category in a vertical direction.

64) _____

A) Pie charts

B) Stacked bar charts

C) Clustered bar charts

D) Scatter plots

Answer: C

Explanation: A)
B)
C)
D)

65) _____ classes are classes with boundaries that do not overlap.

65) _____

A) Equal-size

B) Open-ended

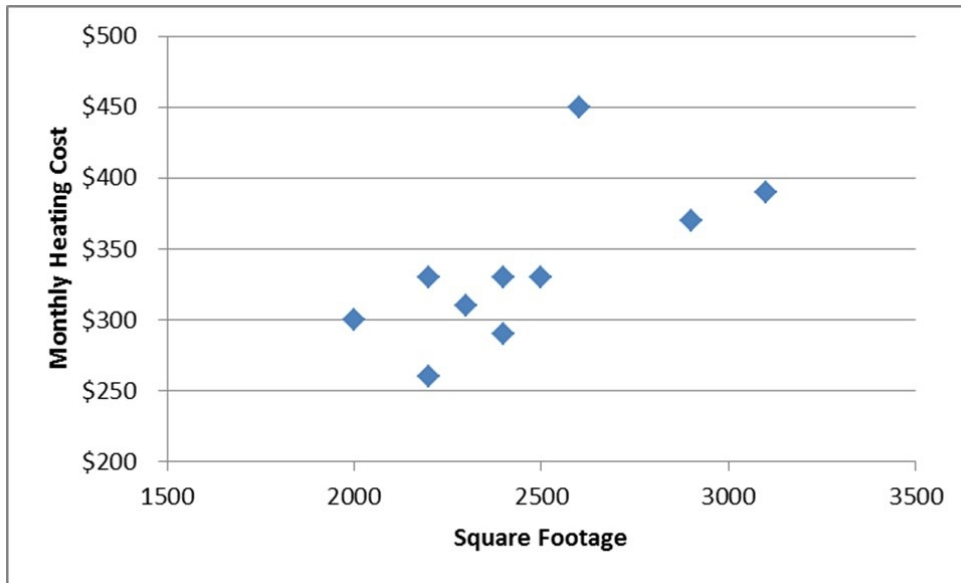
C) Close-ended

D) Mutually exclusive

Answer: D

Explanation: A)
B)
C)
D)

- 66) The following graph shows the square footage of 10 homes along with their corresponding heating cost for the most recent month. 66) _____



This graph is an example of a _____.

- A) Pareto chart
B) line chart
C) horizontal bar chart
D) scatter plot

Answer: D

Explanation: A)
B)
C)
D)

- 67) Use a _____ chart if you want to compare the relative sizes of the classes in a frequency distribution and together they comprise all possible categories. 67) _____

- A) Pareto
B) horizontal bar
C) vertical bar
D) pie

Answer: D

Explanation: A)
B)
C)
D)

68) Consider the following stem and leaf display.

68) _____

1(0) | 2 4 4
1(5) | 6 6 7 8
2(0) | 0 0 1 1 1 2 2
2(5) | 5 5 7 8
3(0) | 0 1 3 4

Which of the following statements is correct?

- A) There are a total of 10 data values in this data set.
- B) The class 15-19 contains the most values.
- C) This largest data value is 34.
- D) The data value that occurs most often is 22.

Answer: C

Explanation: A)
B)
C)
D)

69) Consider the following stem and leaf display.

69) _____

1(0) | 2 4 4
1(5) | 6 6 7 8
2(0) | 0 0 1 1 1 2 2
2(5) | 5 5 7 8
3(0) | 0 1 3 4

Which data value occurs most often?

- A) 21
- B) 1
- C) 200
- D) 22

Answer: A

Explanation: A)
B)
C)
D)

70) _____ are values that can take on any real numbers, including numbers that contain decimal points. This data is often the result of measuring observations rather than counting them.

70) _____

- A) Discrete
- B) Ordinal
- C) Cross-sectional
- D) Continuous

Answer: D

Explanation: A)
B)
C)
D)

71) Pareto charts also plot the cumulative relative frequency as a line on the chart. This line is known as 71) _____

a(n) _____.

- A) frequency distribution
B) histogram
C) scatter plot
D) ogive

Answer: D

Explanation: A)
B)
C)
D)

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

72) _____

Answer:

Explanation:

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

73) The goal of constructing a frequency distribution is to identify a useful pattern in the data and often there is more than one acceptable way to accomplish this with grouped quantitative data. 73) _____

Answer: ☒ True ☐ False

Explanation:

74) Histograms displaying continuous data have gaps between their bars. 74)

Answer: True ☒ False

Explanation:

75) Empty classes for a frequency distribution using grouped quantitative data result from class widths that are too wide. 75) _____

Answer: True ☒ False

Explanation:

76) Fifty employees at CSC Corporation responded to a survey asking for the number of minutes they commute to work in the morning. Management would like to know the proportion of employees whose commute is less than 30 minutes. A cumulative relative frequency distribution using grouped data would provide the information to answer this question.

Answer: ☒ True ☐ False

Explanation:

77) The dependent variable in a scatter plot is influenced by changes in the independent variable. 77)

Answer: ☒ True ☐ False

Explanation:

78) Clustered bar charts are preferred over stacked bar charts when you are comparing data within categories, such as which team scored more points in 2009 when compared to 2010. 78) _____

Answer: ☒ True ☐ False

Explanation:

79) Under no circumstances should open-ended classes be used for a frequency distribution using grouped quantitative data. 79) _____

Answer: True ☒ False

Explanation:

80) Discrete data can have an infinite number of values within a specific interval. 80) _____

Answer: True ☒ False

Explanation:

81) The sum of the relative frequencies for the relative frequency distribution should be equal to or very close to 1.0 due to rounding. 81) _____

Answer: ☒ True False

Explanation:

82) Pareto charts are a specific type of bar chart used in quality control programs by businesses to graphically display the causes of problems. 82) _____

Answer: ☒ True False

Explanation:

83) A fast food restaurant would like to examine the wait time for customers who use the drive-thru window. The following class boundaries are appropriate to construct a frequency distribution for this data. 83) _____

Number of Minutes
0-2
2-4
4-6
6-8

Answer: True ☒ False

Explanation:

84) A data set is known as a times series when each data point is associated with a specific point in time. 84) _____

Answer: ☒ True False

Explanation:

85) When constructing a frequency distribution with grouped qualitative data, occasionally you will end up with $k + 1$ or $k - 1$ classes to cover the entire data set. 85) _____

Answer: ☒ True False

Explanation:

86) The estimated class width for a frequency distribution using grouped quantitative data should be rounded to an integer value to make the class boundaries more readable. 86) _____

Answer: ☒ True False

Explanation:

- 87) The sum of the cumulative relative frequencies for the cumulative relative frequency distribution should be equal to or very close to 1.0 due to rounding. 87) _____
Answer: True ☒ False
Explanation:
- 88) When constructing a pie chart, all categories in the data set must be included in the pie. 88) _____
Answer: ☒ True False
Explanation:
- 89) Continuous data are values based on observations that can be counted and are typically represented by whole numbers. 89) _____
Answer: True ☒ False
Explanation:
- 90) When creating a frequency distribution with grouped qualitative data and 45 data points, five classes should be set up using the $2^k \geq n$ rule. 90) _____
Answer: True ☒ False
Explanation:
- 91) The only limitation in the number of continuous values within an interval is the level of precision of the measuring instrument. 91) _____
Answer: ☒ True False
Explanation:
- 92) The stem and leaf display is a graphical technique that can used to display qualitative data. 92) _____
Answer: True ☒ False
Explanation:
- 93) Choose a pie chart rather than a bar chart if you want to highlight the actual data values and when the classes combined don't form a whole. 93) _____
Answer: True ☒ False
Explanation:
- 94) When graphing a time series, the convention is to place the time data on the vertical axis of the graph. 94) _____
Answer: True ☒ False
Explanation:
- 95) A stem and leaf display allows you to observe individual data values while a histogram groups data values together. 95) _____
Answer: ☒ True False
Explanation:
- 96) The cumulative percentage polygon is a line graph that plots the cumulative relative frequency distribution. 96) _____
Answer: ☒ True False
Explanation:

- 97) Each category of a pie chart occupies a segment of the pie that represents the cumulative relative frequency of that category. 97) _____
Answer: True ☒ False
Explanation:
- 98) Income and age are examples of data that are technically discrete but are normally displayed in a continuous format. 98) _____
Answer: ☒ True False
Explanation:
- 99) Contingency tables help us identify relationships between two or more variables. 99) _____
Answer: ☒ True False
Explanation:
- 100) A histogram is the appropriate type of graph to display both quantitative and qualitative data. 100) _____
Answer: True ☒ False
Explanation:
- 101) Equal-size classes refer to classes for a frequency distribution using grouped quantitative data that do not overlap. 101) _____
Answer: True ☒ False
Explanation:
- 102) Fifty employees at CSC Corporation responded to a survey asking for the number of minutes they commute to work in the morning. Eighteen employees indicated that their commutes are 15 to less than 20 minutes. The relative frequency for this class in a frequency distribution would be 0.18. 102) _____
Answer: True ☒ False
Explanation:
- 103) The independent variable on scatter plots is placed on the vertical axis on the graph. 103) _____
Answer: True ☒ False
Explanation:
- 104) Continuous data is often the result of measuring observations rather than counting them. 104) _____
Answer: ☒ True False
Explanation:
- 105) Pareto charts display the categories in an increasing order with the least problematic categories shown first. 105) _____
Answer: True ☒ False
Explanation:
- 106) If the class sizes are not equal for a frequency distribution using grouped quantitative data, patterns in the distribution could be misleading. 106) _____
Answer: ☒ True False
Explanation:

- 107) Quantitative data are values that are categorical, describing a characteristic such as gender or level of education. 107) _____
Answer: True ☒ False
Explanation:
- 108) Pie charts are an excellent tool for comparing proportions for qualitative (categorical) data. 108) _____
Answer: ☒ True False
Explanation:
- 109) Choose a pie chart rather than a bar chart if you want to compare the relative sizes of the classes to one another and together they comprise all possible categories. 109) _____
Answer: ☒ True False
Explanation:
- 110) The dependent variable on scatter plots is placed on the horizontal axis on the graph. 110) _____
Answer: True ☒ False
Explanation:
- 111) Histograms displaying discrete data usually have gaps between their bars. 111) _____
Answer: ☒ True False
Explanation:
- 112) Bar charts can display data either horizontally or vertically. 112) _____
Answer: ☒ True False
Explanation:
- 113) A symmetrical distribution is one in which the right side of the distribution looks like the mirror image of the left side of the distribution. 113) _____
Answer: ☒ True False
Explanation:
- 114) A frequency distribution is a table that shows the number of data observations that fall into specific intervals. 114) _____
Answer: ☒ True False
Explanation:
- 115) Clustered bar charts are preferred over stacked bar charts when you are displaying totals in each category, such as what team scored the most points over the two-year period. 115) _____
Answer: True ☒ False
Explanation:

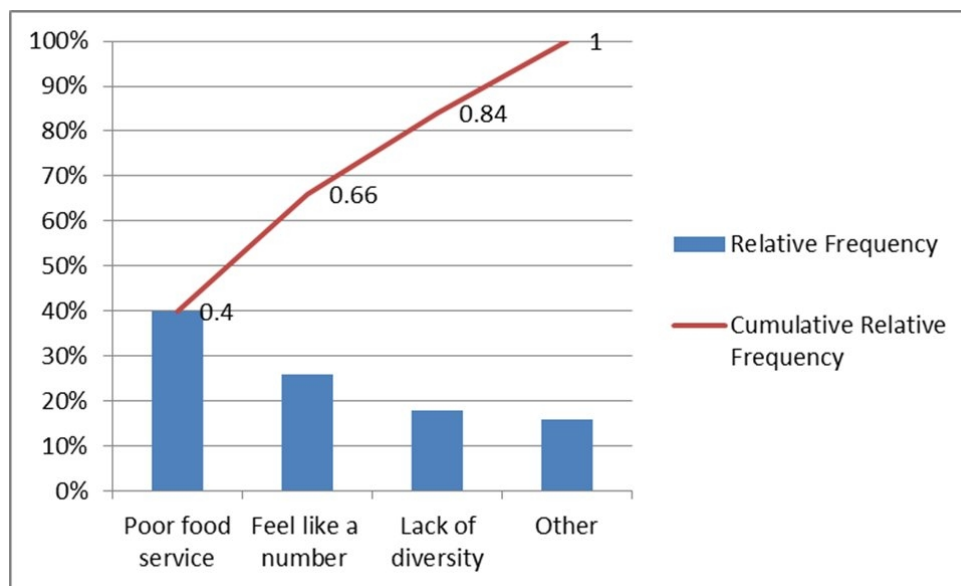
ESSAY. Write your answer in the space provided or on a separate sheet of paper.

- 116) The following table shows the number of complaints recorded at a college from the student body this past school year.

Complaint	Frequency
Poor food service	20
Feel like a number	13
Lack of diversity	9
Other	8

Construct a Pareto chart to display this data.

Answer:



- 117) The following table shows the number of points scored by the Green Bay Packers and the Detroit Lions of the National Football League over 15 recent seasons.

Green Bay

560 388 461 419 435 301 298 424
 442 398 390 353 357 408 422

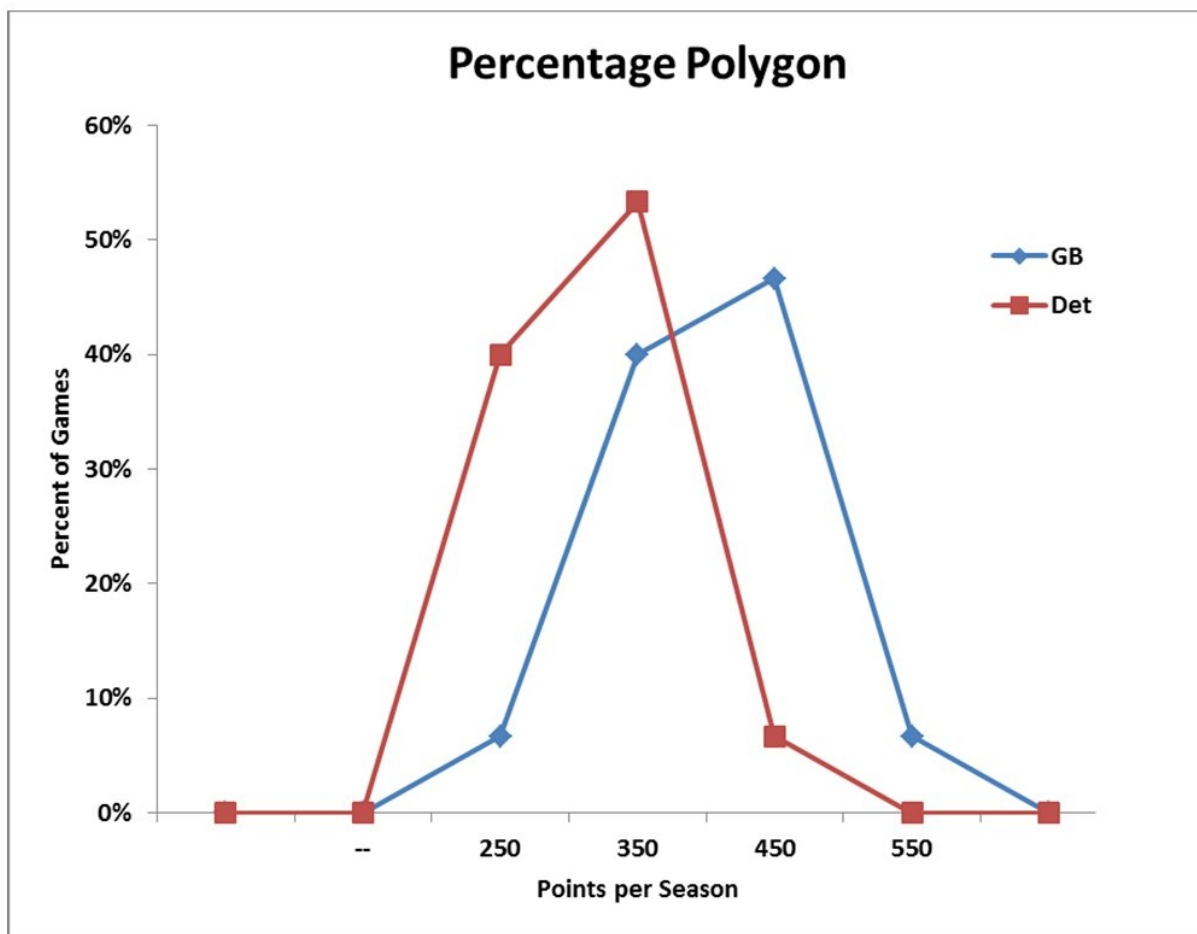
Detroit

474 362 262 268 346 305 254 296
 270 306 270 307 322 306 379

Use four classes, each with a class width of 100. Start classes with 201-300, 301-400, and so on, and construct a percentage polygon. What conclusions can you draw comparing these two teams?

Answer:

Answer:



Green Bay tended to score more points per season than Detroit during this time span.

118) The following data show the monthly rental for a random sample of one-bedroom apartments in York, Pennsylvania.

\$600 \$615 \$660 \$660 \$675 \$680 \$690 \$700 \$720 \$725
\$755 \$760 \$775 \$775 \$780 \$780 \$780 \$785 \$810 \$840

Construct a cumulative relative frequency distribution for this data and determine the probability a randomly selected one-bedroom apartment will rent for less than \$700 per month.

Answer: Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

Monthly Rent	Frequency	Relative Frequency	Cumulative Relative Frequency
\$600 to under \$650	2	0.10	0.10
\$650 to under \$700	5	0.25	0.35
\$700 to under \$750	3	0.15	0.50
\$750 to under \$800	8	0.40	0.90
\$800 to under \$850	2	0.10	1.00
Total	20	1.00	

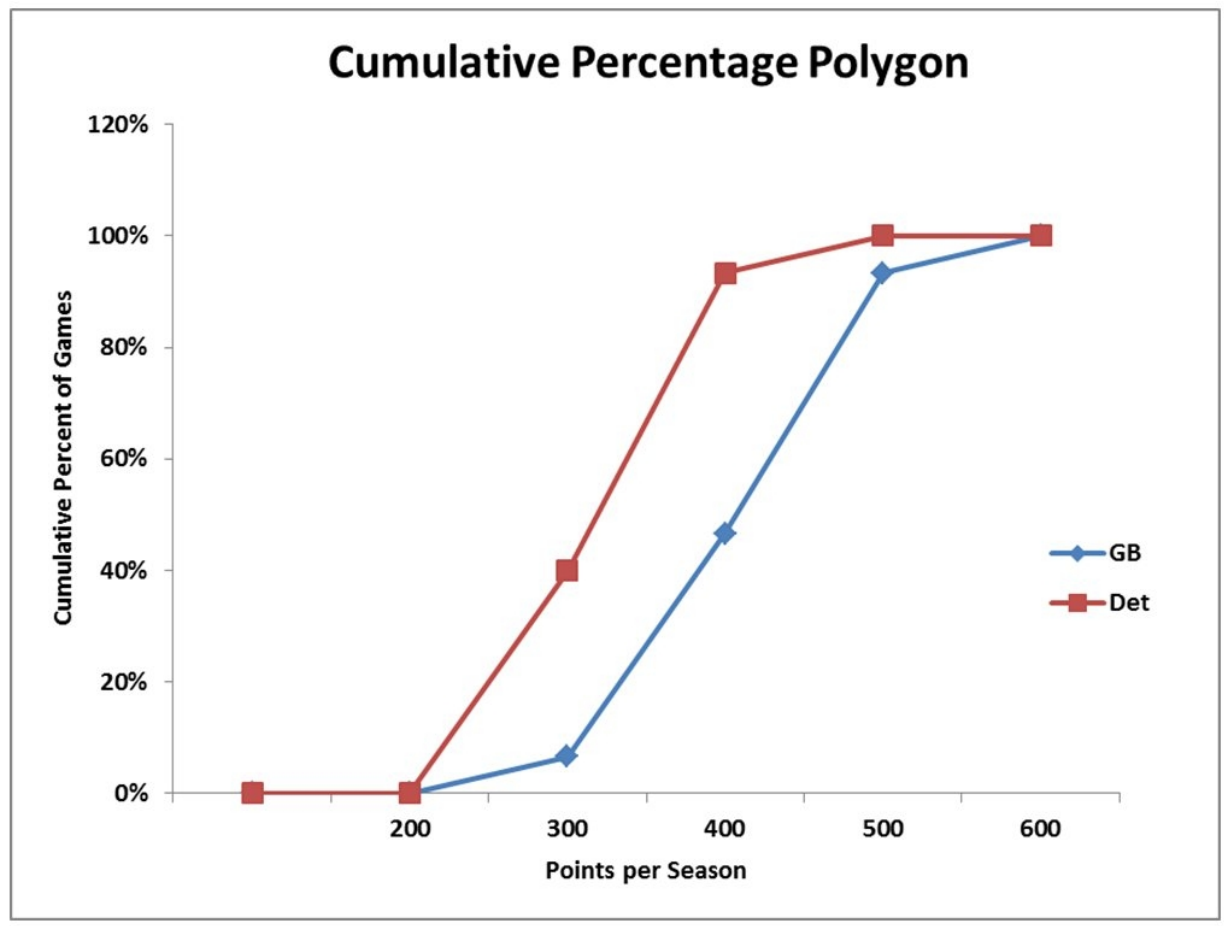
$$P(x < \$700) = 0.35$$

119) The following table shows the number of points scored by the Green Bay Packers and the Detroit Lions of the National Football League over 15 recent seasons.

Green Bay							
560	388	461	419	435	301	298	424
442	398	390	353	357	408	422	
Detroit							
474	362	262	268	346	305	254	296
270	306	270	307	322	306	379	

Use four classes, each with a class width of 100. Start classes with 201-300, 301-400, and so on, and construct a cumulative percentage polygon. What conclusions can you draw comparing these two teams?

Answer:



Green Bay tended to score more points per season than Detroit during this time span.

120) The following data show the monthly rental for a random sample of one-bedroom apartments in York, Pennsylvania.

\$600 \$615 \$660 \$660 \$675 \$680 \$690 \$700 \$720 \$725
 \$755 \$760 \$775 \$775 \$780 \$780 \$780 \$785 \$810 \$840

Construct a relative frequency distribution for this data and determine the probability a randomly selected one-bedroom apartment will rent between \$700 and less than \$750 per month.

Answer: Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

Monthly Rent	Frequency	Relative Frequency
\$600 to under \$650	2	0.10
\$650 to under \$700	5	0.25
\$700 to under \$750	3	0.15
\$750 to under \$800	8	0.40
\$800 to under \$850	2	0.10
Total	20	1.00

$$P(\$700 \leq x < \$750) = 0.15$$

121) The following data show the monthly rental for a random sample of one-bedroom apartments in York, Pennsylvania.

\$600 \$615 \$660 \$660 \$675 \$680 \$690 \$700 \$720 \$725
 \$755 \$760 \$775 \$775 \$780 \$780 \$780 \$785 \$810 \$840

Construct a frequency distribution for this data.

Answer: Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

Monthly Rent	Frequency
\$600 to under \$650	2
\$650 to under \$700	5
\$700 to under \$750	3
\$750 to under \$800	8
\$800 to under \$850	2
Total	20

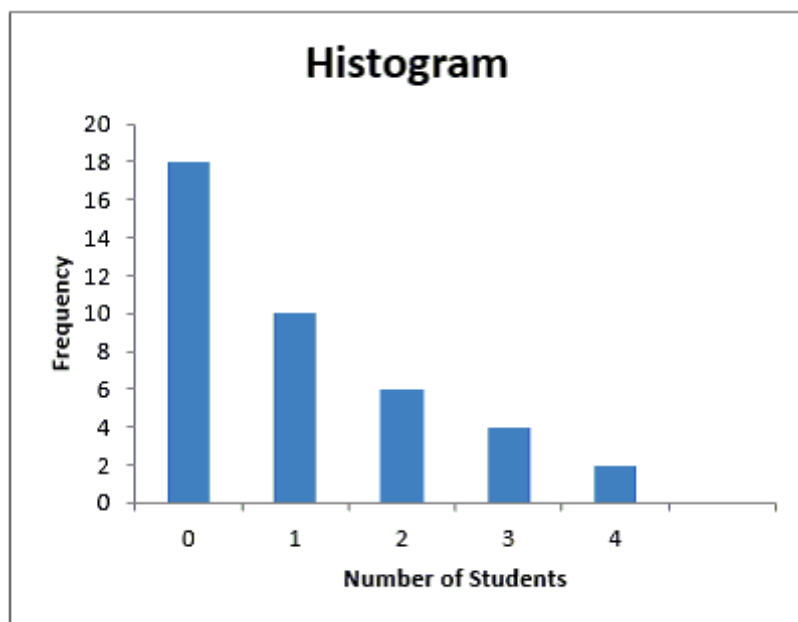
122) The following data shows the number of students that came to office hours per day for a particular faculty member.

0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1
1	1	1	1	1	1	1	1	2	2
2	2	2	2	3	3	3	3	4	4

Construct a histogram for this data.

Answer:

Number of Students	Frequency
0	18
1	10
2	6
3	4
4	2
Total	40

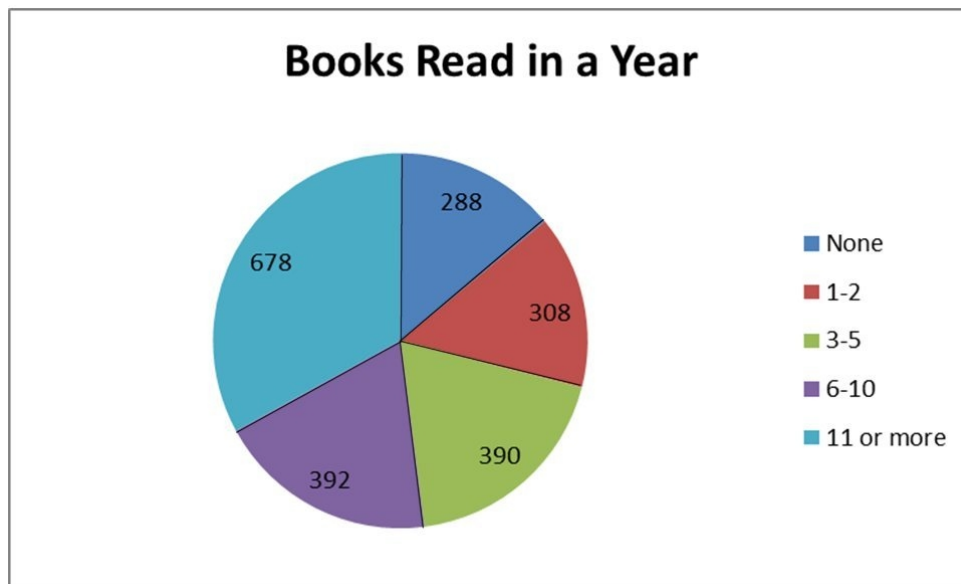


123) A survey of 2,056 adults was asked how many books they typically read in a year. The following table shows the frequency distribution of the respondents.

Response	Frequency
None	288
1 - 2	308
3 - 5	390
6 - 10	392
11 or more	678

Construct a chart that best displays this data.

Answer:

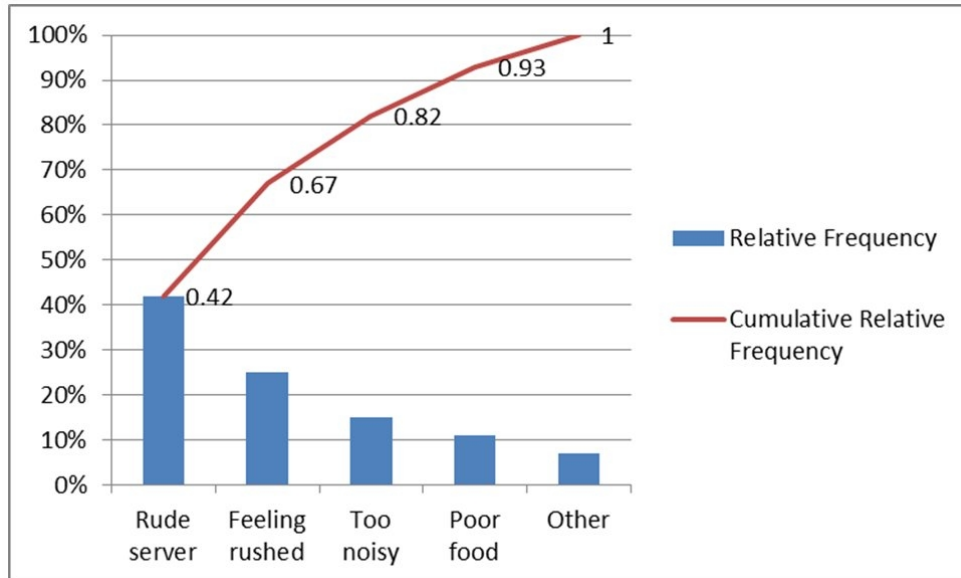


124) The following table shows the number of complaints recorded at a restaurant over the past several years.

Complaint	Frequency
Rude server	42
Feeling rushed	25
Too noisy	15
Poor food	11
Other	7

Construct a Pareto chart to display this data.

Answer:



- 125) Chris is a photographer and sells two types of photography for consignment in an art store—landscapes and flower close-ups. She also sells each in three print sizes—8x10, 11x14, and 13x19 inches. The following table shows the number of prints of each type and size that have recently sold.

Type	Size	Type	Size
landscape	13x19	flower	11x14
landscape	11x14	landscape	11x14
flower	11x14	landscape	8x10
flower	8x10	flower	8x10
landscape	13x19	landscape	11x14
flower	8x10	landscape	13x19
flower	11x14	flower	11x14
flower	13x19	landscape	11x14
landscape	13x19	landscape	13x19

Construct a contingency table for this data.

Answer:

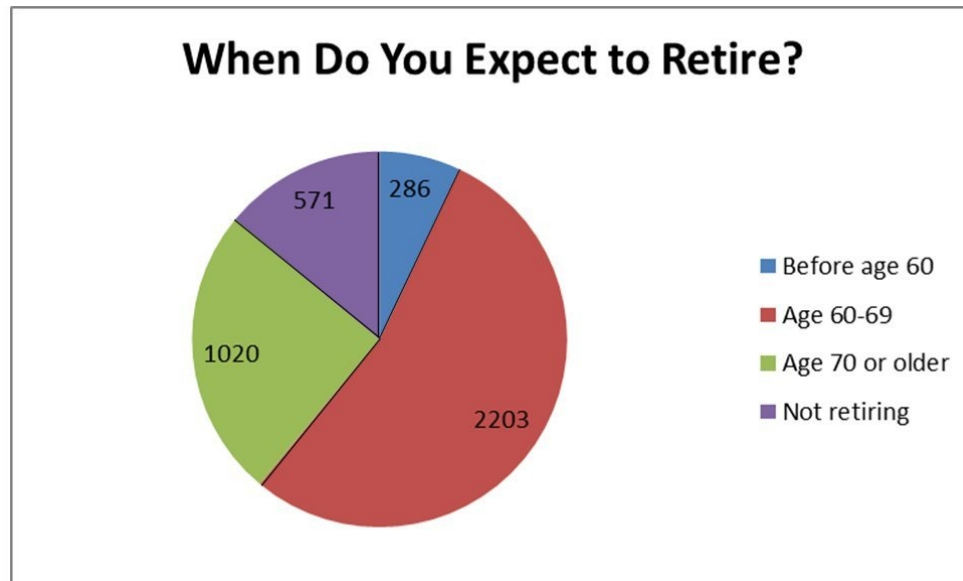
	Landscape	Flower
8x10	1	3
11x14	4	4
13x19	5	1

126) A survey of 4,080 workers was asked when they expected to retire. The following table shows the frequency distribution of the respondents.

Response	Frequency
Before age 60	286
Age 60-69	2,203
Age 70 or older	1,020
Not retiring	571

Construct a chart that best displays this data.

Answer:

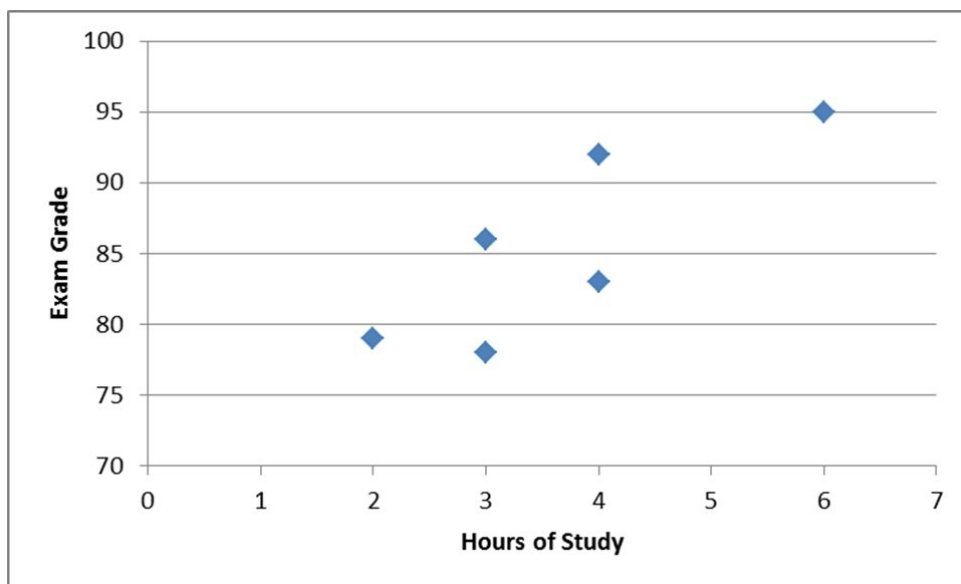


- 127) The following table shows the number of hours that six students studied for their statistics exam and their corresponding exam grades.

Hours of Study	Exam Grade
3	86
6	95
4	92
4	83
3	78
2	79

Construct a scatter plot to display this data. What conclusions can be drawn?

Answer:



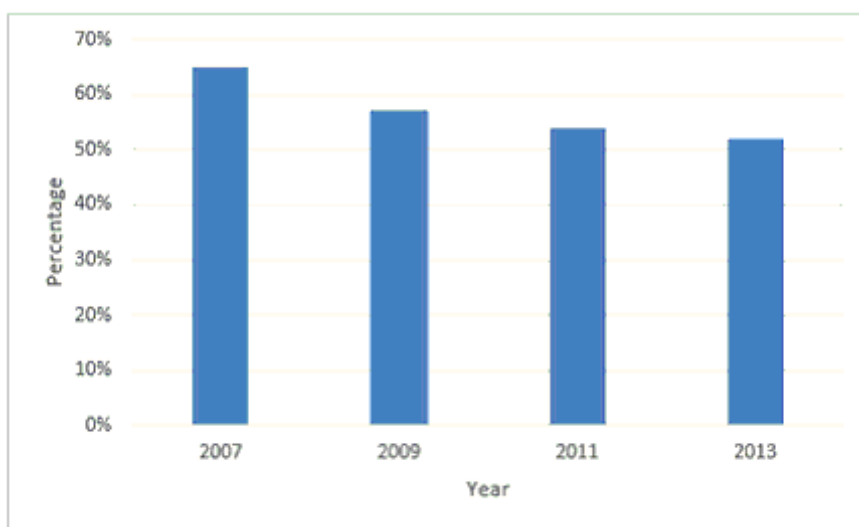
It appears that the students who studied longer, in general, did better on the exam.

128) The following table shows the percentage of adults invested in stocks through 401(k)s or mutual funds from a Gallup survey.

Year	Percentage
2007	65%
2009	57%
2011	54%
2013	52%

Construct the type of chart that would be most appropriate if the goal was to compare the percentages over time.

Answer:

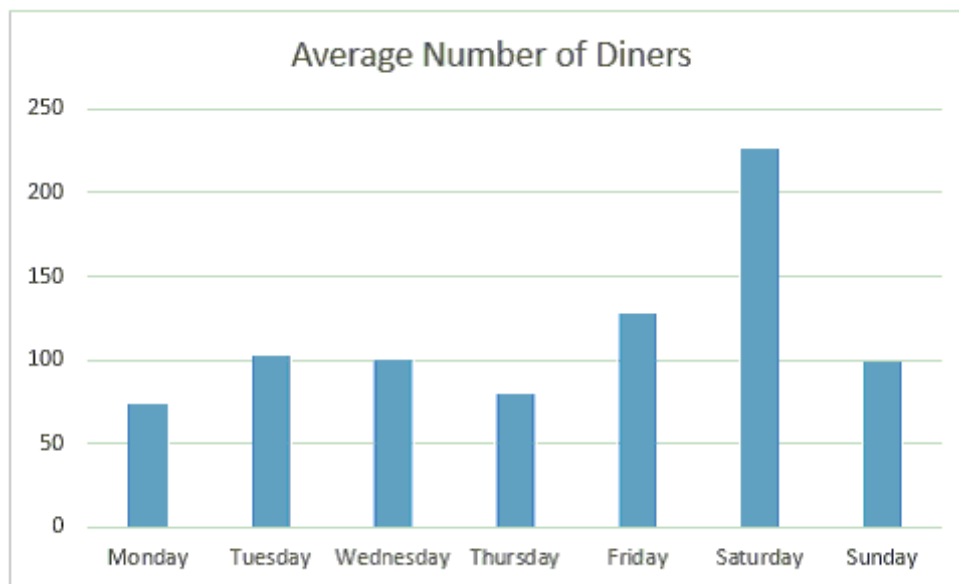


129) The following table shows the average number of diners at a restaurant during each day of the week.

Day	Average Number of Diners
Monday	73
Tuesday	102
Wednesday	100
Thursday	79
Friday	128
Saturday	227
Sunday	99

Construct the type of chart that would be most appropriate if the goal was to compare the number of diners during the week.

Answer:



130) The following data show the number of pairs of men's New Balance sneakers that were sold over the last 25 weeks at a discount shoe store.

1 4 6 6 8 8 9 11 11
 11 12 12 14 14 14 15 17 17
 17 19 19 20 21 24 24

Construct a relative frequency distribution for this data and determine the probability that between 6 to 10 pairs of New Balance shoes will be sold next week.

Answer: Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

Number of Pairs	Frequency	Relative Frequency
1 - 5	2	0.08
6 - 10	5	0.20
11 - 15	9	0.36
16 - 20	6	0.24
21 - 25	3	0.12
Total	25	1.00

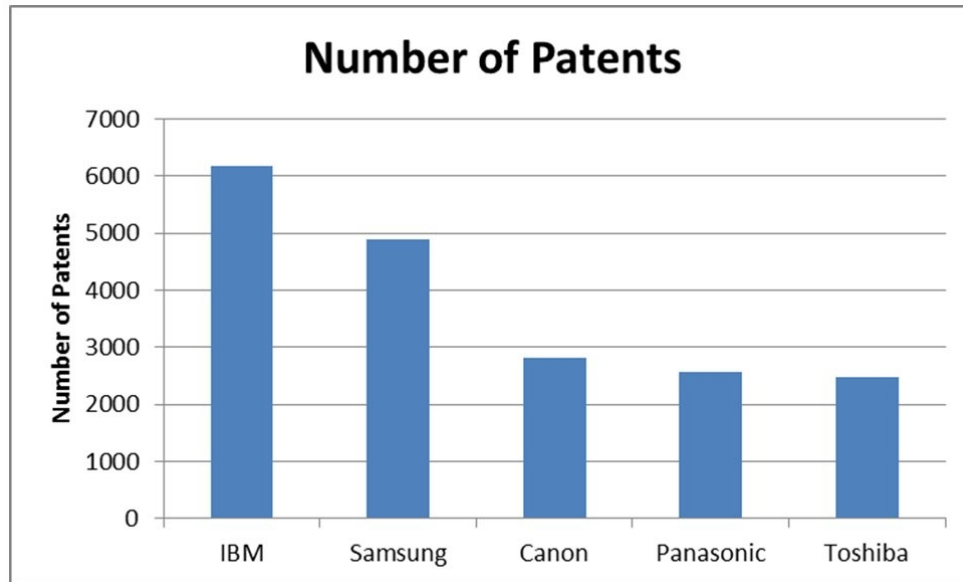
$$P(6 \leq x \leq 10) = 0.20$$

131) The following table shows the number of patents that various corporations filed in a recent year.

Company	Number of Patents
IBM	6,180
Samsung	4,894
Canon	2,821
Panasonic	2,559
Toshiba	2,483

Construct the type of chart that would be most appropriate if the goal was to compare the number of patents among companies.

Answer:

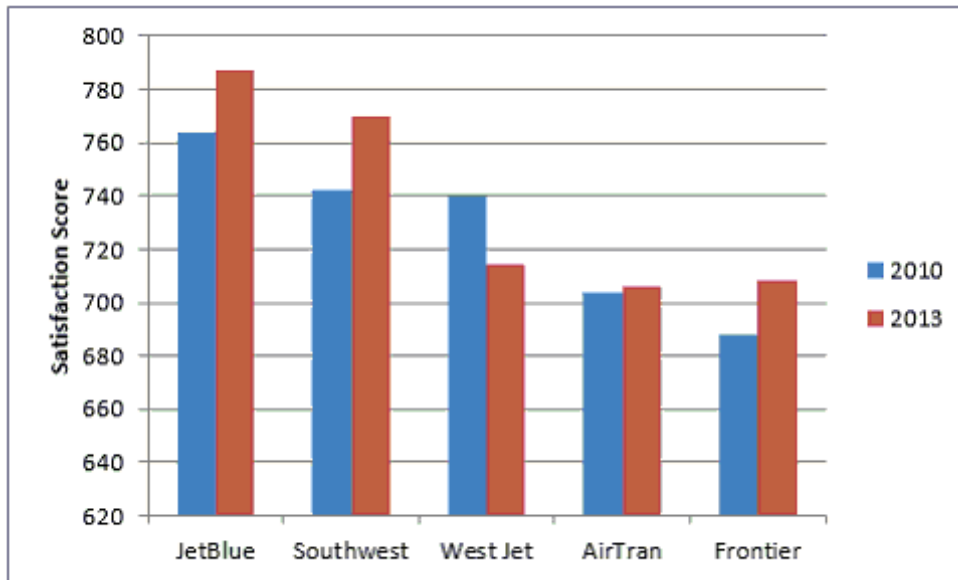


132) The following table shows customer satisfaction scores for five airlines in 2010 and 2013.

Airline	2010	2013
JetBlue	764	787
Southwest	742	770
West Jet	740	714
AirTran	704	706
Frontier	688	708

Construct the type of chart that would be most appropriate if the goal was to investigate changes in satisfaction scores for each airline between the two years.

Answer:



- 133) Costco is a warehouse store that has two types of membership—standard and executive. The following table shows the gender and type of membership of the last 20 customers at a particular store.

Membership	Gender	Membership	Gender
standard	male	standard	female
executive	female	standard	male
standard	female	standard	female
executive	male	standard	male
standard	male	standard	female
executive	male	executive	female
standard	male	executive	female
executive	female	executive	male
standard	male	executive	female
executive	female	executive	female

Construct a contingency table for this data.

Answer:

	Standard	Executive
Female	4	7
Male	6	3

- 134) The following data shows the number of students that came to office hours per day for a particular faculty member.

0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1
1	1	1	1	1	1	1	1	2	2
2	2	2	2	3	3	3	3	4	4

Construct a cumulative relative frequency distribution for this data and determine the probability that fewer than three students will come to office hours today.

Answer:

Number of Students	Frequency	Relative Frequency	Cumulative Relative Frequency
0	18	0.45	0.45
1	10	0.25	0.70
2	6	0.15	0.85
3	4	0.10	0.95
4	2	0.05	1.00
Total	40	1.00	

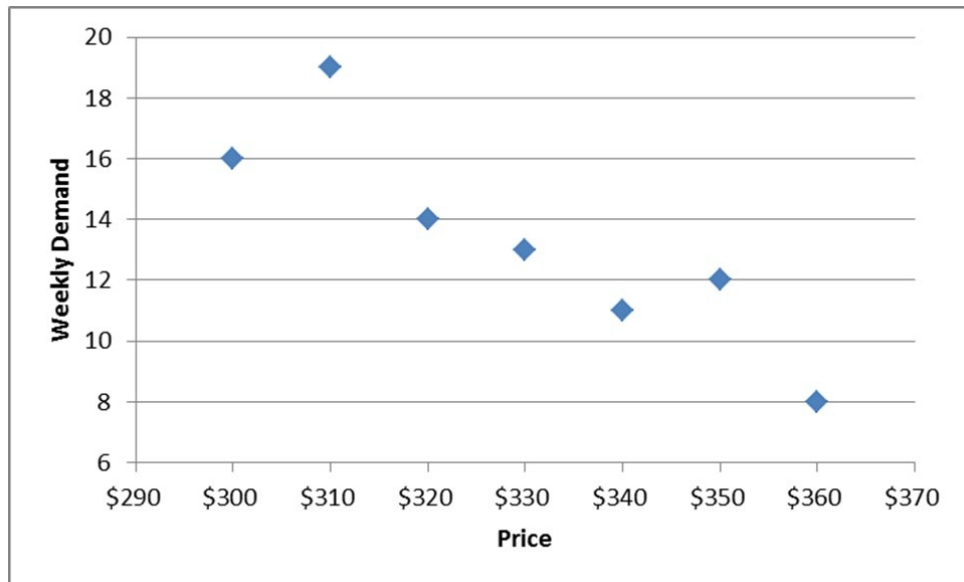
$$P(x < 3) = 0.85$$

135) The following table shows the weekly demand for a particular digital camera and the corresponding price of that camera during the week.

Weekly Demand	Price
16	\$300
19	\$310
14	\$320
13	\$330
11	\$340
12	\$350
8	\$360

Construct a scatter plot to display this data. What conclusions can be drawn?

Answer:



It appears that as the price increases, demand for the camera decreases.

- 136) The following data show the number of pairs of men's New Balance sneakers that were sold over the last 25 weeks at a discount shoe store.

1 4 6 6 8 8 9 11 11
 11 12 12 14 14 14 15 17 17
 17 19 19 20 21 24 24

Construct a frequency distribution for this data.

Answer: Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

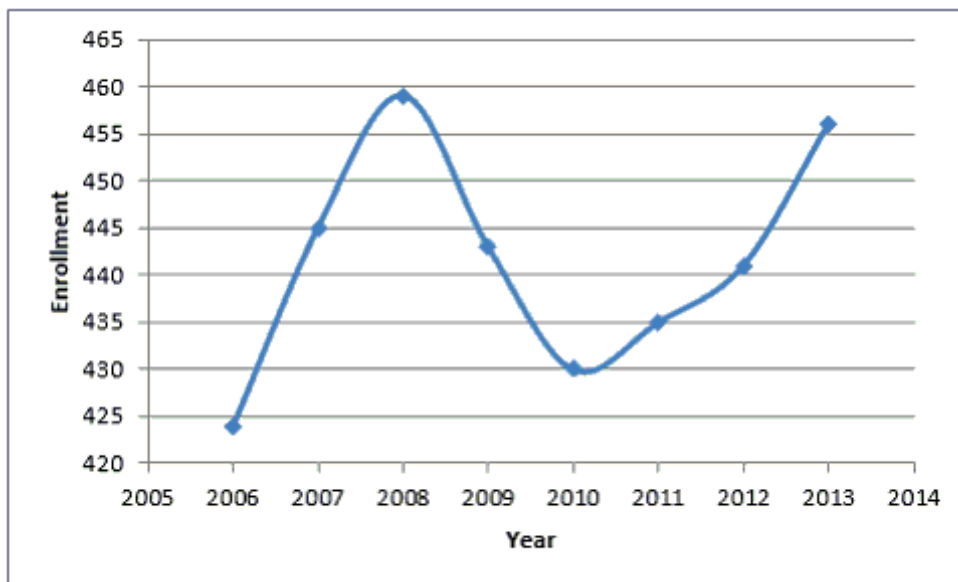
Number of Pairs	Frequency
1-5	2
6-10	5
11-15	9
16-20	6
21-25	3
Total	25

137) The following table shows the enrollment at a private grade school from 2006 until 2013.

Year	Enrollment
2006	424
2007	445
2008	459
2009	443
2010	430
2011	435
2012	441
2013	456

Construct a line chart to display this data.

Answer:



138) The following data show the number of pairs of men's New Balance sneakers that were sold over the last 25 weeks at a discount shoe store.

1 4 6 6 8 8 9 11 11
 11 12 12 14 14 14 15 17 17
 17 19 19 20 21 24 24

Construct a cumulative relative frequency distribution for this data and determine the probability that 15 or fewer pairs of New Balance shoes will be sold next week.

Answer: Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

Number of Pairs	Frequency	Relative Frequency	Cumulative Relative Frequency
1 - 5	2	0.08	0.08
6 - 10	5	0.20	0.28
11 - 15	9	0.36	0.64
16 - 20	6	0.24	0.88
21 - 25	3	0.12	1.00
Total	25	1.00	

$$P(x \leq 15) = 0.64$$

139) The following data represents the high ambient temperature for a particular city over the past 16 days.

52 56 56 58 59 60 62 65
 69 73 73 74 76 76 77 78

Construct a stem and leaf display for this data.

Answer: 5 | 2 6 6 8 9

6 | 0 2 5 9

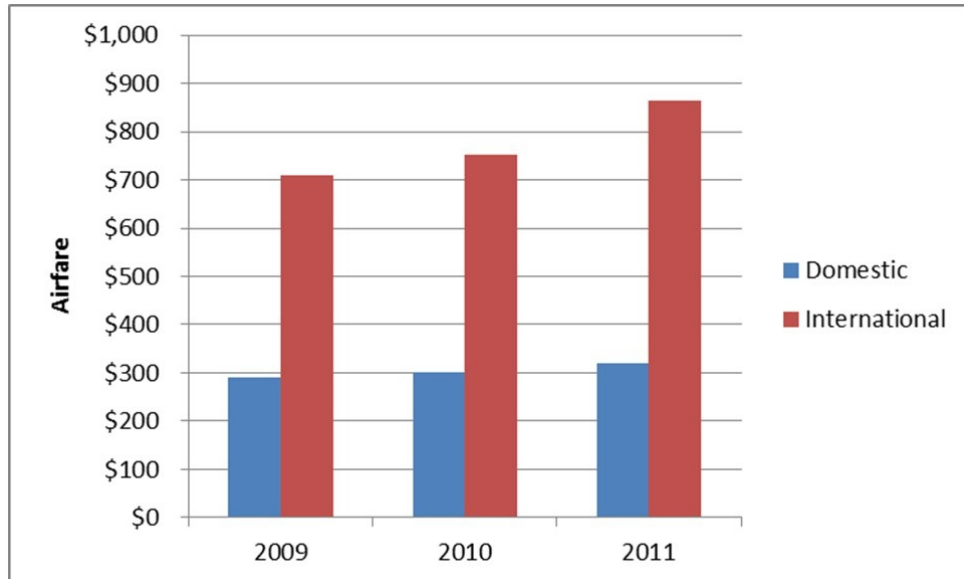
7 | 3 3 4 6 6 7 8

140) The following table shows the average roundtrip airfare for domestic and international flights for each of three years.

Year	Domestic	International
2009	\$291	\$710
2010	\$302	\$753
2011	\$320	\$863

Construct the type of chart that would be most appropriate if the goal was to compare the domestic and international airfare.

Answer:



141) The following data shows the number of students that came to office hours per day for a particular faculty member.

0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1
1	1	1	1	1	1	1	1	2	2
2	2	2	2	3	3	3	3	4	4

Construct a relative frequency distribution for this data and determine the probability that one student will come to office hours today.

Answer:

Number of Students	Frequency	Relative Frequency
0	18	0.45
1	10	0.25
2	6	0.15
3	4	0.10
4	2	0.05
Total	40	1.00

$$P(x = 1) = 0.25$$

142) The following data show the monthly rental for a random sample of one-bedroom apartments in York, Pennsylvania.

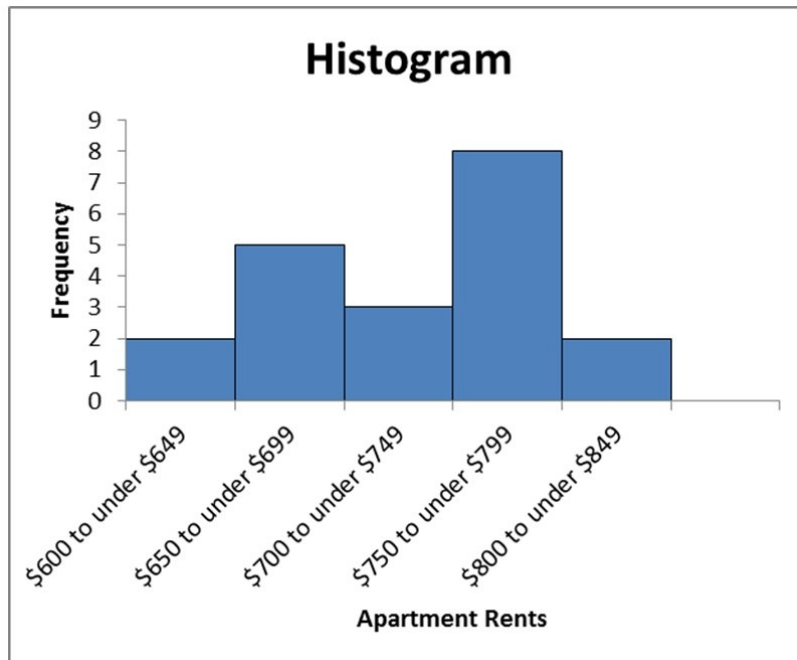
\$600 \$615 \$660 \$660 \$675 \$680 \$690 \$700 \$720 \$725
 \$755 \$760 \$775 \$775 \$780 \$780 \$780 \$785 \$810 \$840

Construct a histogram for this data.

Answer: Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

Monthly Rent	Frequency
\$600 to under \$650	2
\$650 to under \$700	5
\$700 to under \$750	3
\$750 to under \$800	8
\$800 to under \$850	2
Total	20



143) The following data shows the number of students that came to office hours per day for a particular faculty member.

0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1
1	1	1	1	1	1	1	1	2	2
2	2	2	2	3	3	3	3	4	4

Construct a frequency distribution for this data.

Answer:

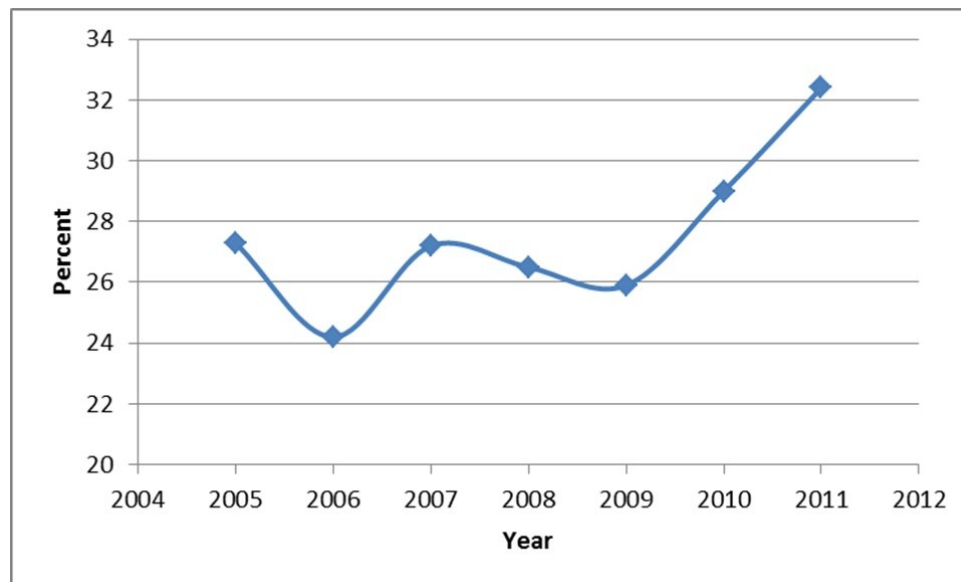
Number of Students	Frequency
0	18
1	10
2	6
3	4
4	2
Total	40

144) The following table shows the percent of car sales that were SUVs from 2005 until 2011.

Year	Percent
2005	27.3
2006	24.2
2007	27.2
2008	26.5
2009	25.9
2010	29.0
2011	32.4

Construct a line chart to display this data.

Answer:



145) The following data show the number of pairs of men's New Balance sneakers that were sold over the last 25 weeks at a discount shoe store.

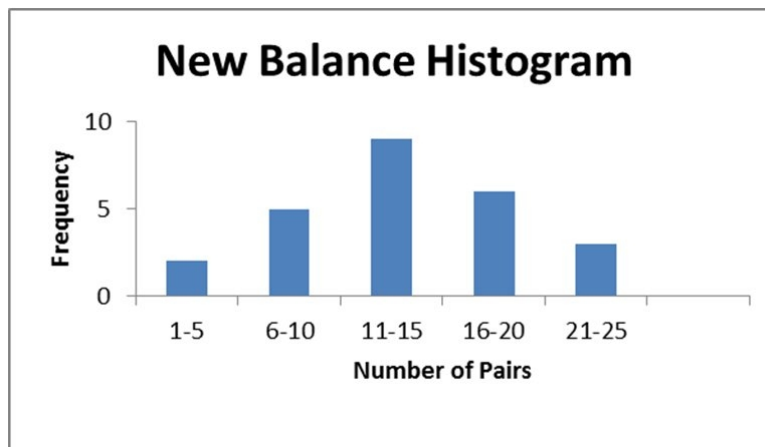
1 4 6 6 8 8 9 11 11
 11 12 12 14 14 14 15 17 17
 17 19 19 20 21 24 24

Construct a histogram for this data.

Answer: Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

Number of Pairs	Frequency
1-5	2
6-10	5
11-15	9
16-20	6
21-25	3
Total	25



146) The following data represents the satisfaction scores from customers at a hotel on a 1-100 scale.

77 77 81 81 82 83 83 84 84 87
 87 89 90 92 92 92 93 93 96 97

Construct a stem and leaf display for this data, splitting the stems in half.

Answer: 7(5) | 7 7
 8(0) | 1 1 2 3 3 4 4
 8(5) | 7 7 9
 9(0) | 0 2 2 2 3 3
 9(5) | 6 7

Answer Key
Testname: C2

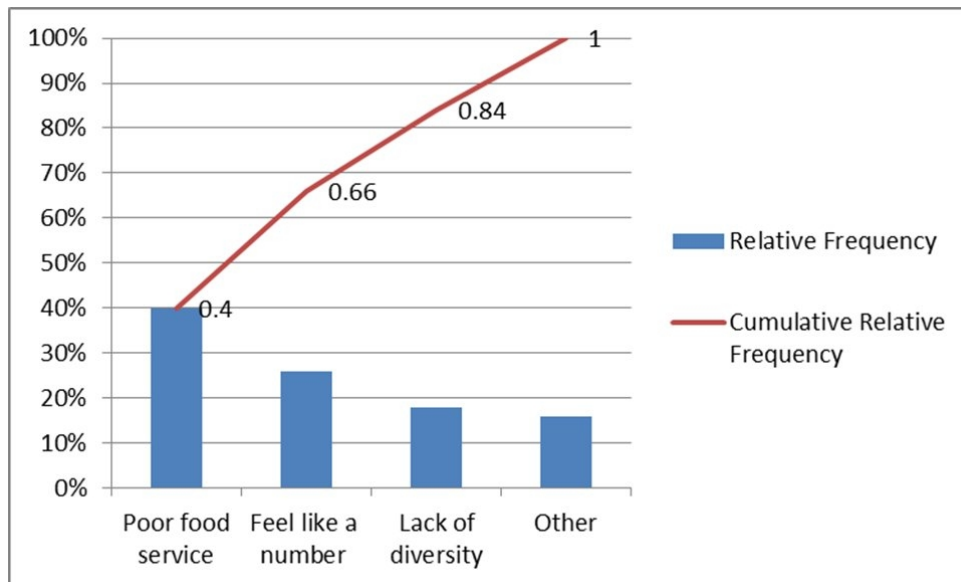
- 1) B
- 2) A
- 3) B
- 4) A
- 5) C
- 6) D
- 7) C
- 8) D
- 9) A
- 10) A
- 11) B
- 12) B
- 13) B
- 14) A
- 15) D
- 16) D
- 17) C
- 18) B
- 19) D
- 20) B
- 21) B
- 22) A
- 23) C
- 24) B
- 25) D
- 26) C
- 27) C
- 28) B
- 29) C
- 30) C
- 31) A
- 32) D
- 33) D
- 34) C
- 35) C
- 36) A
- 37) B
- 38) C
- 39) A
- 40) A
- 41) D
- 42) B
- 43) B
- 44) B
- 45) B
- 46) B
- 47) D
- 48) B
- 49) A
- 50) B

Answer Key
Testname: C2

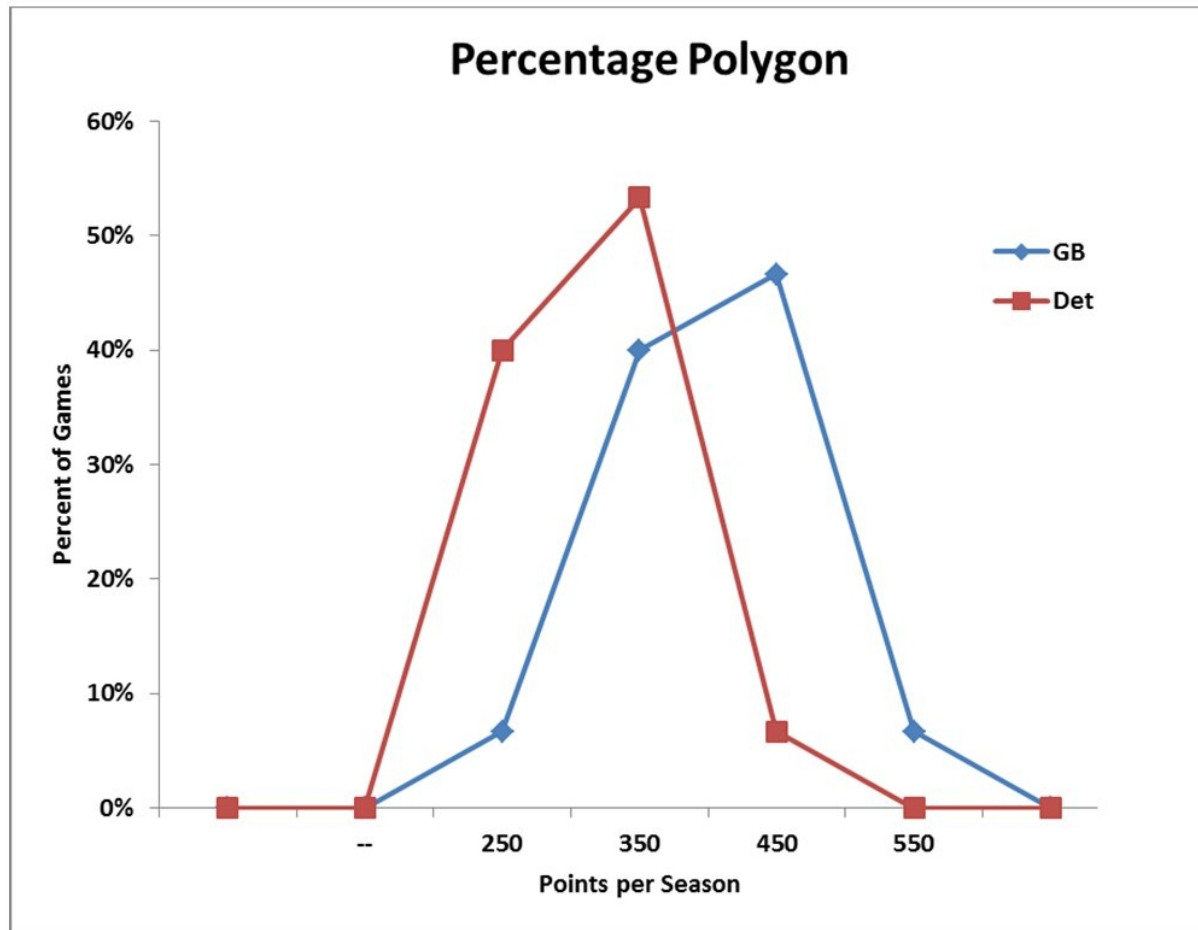
- 51) A
- 52) D
- 53) C
- 54) C
- 55) B
- 56) C
- 57) A
- 58) C
- 59) C
- 60) B
- 61) A
- 62) B
- 63) B
- 64) C
- 65) D
- 66) D
- 67) D
- 68) C
- 69) A
- 70) D
- 71) D
- 72)
- 73) TRUE
- 74) FALSE
- 75) FALSE
- 76) TRUE
- 77) TRUE
- 78) TRUE
- 79) FALSE
- 80) FALSE
- 81) TRUE
- 82) TRUE
- 83) FALSE
- 84) TRUE
- 85) TRUE
- 86) TRUE
- 87) FALSE
- 88) TRUE
- 89) FALSE
- 90) FALSE
- 91) TRUE
- 92) FALSE
- 93) FALSE
- 94) FALSE
- 95) TRUE
- 96) TRUE
- 97) FALSE
- 98) TRUE
- 99) TRUE
- 100) FALSE

Answer Key
Testname: C2

- 101) FALSE
- 102) FALSE
- 103) FALSE
- 104) TRUE
- 105) FALSE
- 106) TRUE
- 107) FALSE
- 108) TRUE
- 109) TRUE
- 110) FALSE
- 111) TRUE
- 112) TRUE
- 113) TRUE
- 114) TRUE
- 115) FALSE
- 116)



117)



Green Bay tended to score more points per season than Detroit during this time span.

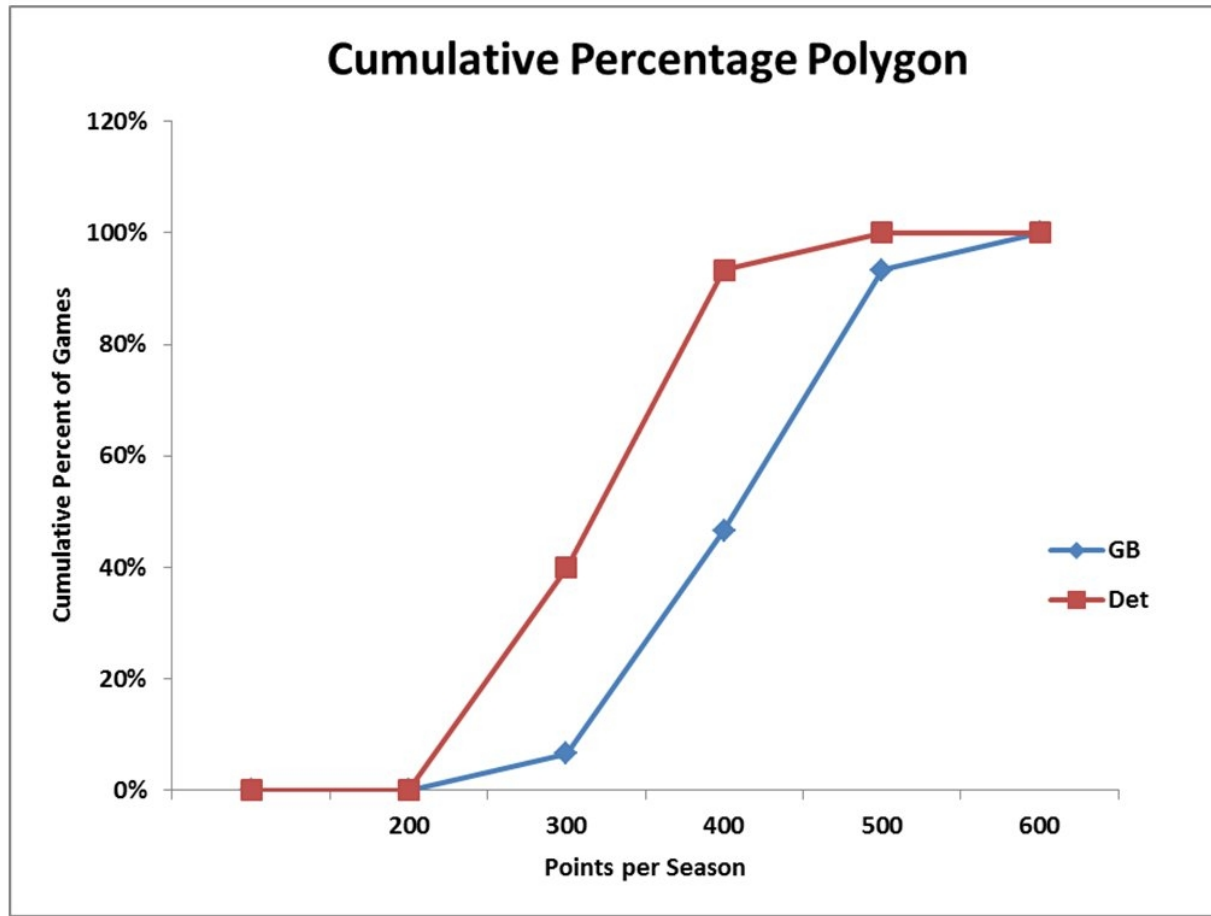
118) Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

Monthly Rent	Frequency	Relative Frequency	Cumulative Relative Frequency
\$600 to under \$650	2	0.10	0.10
\$650 to under \$700	5	0.25	0.35
\$700 to under \$750	3	0.15	0.50
\$750 to under \$800	8	0.40	0.90
\$800 to under \$850	2	0.10	1.00
Total	20	1.00	

$$P(x < \$700) = 0.35$$

119)



Green Bay tended to score more points per season than Detroit during this time span.

120) Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

Monthly Rent	Frequency	Relative Frequency
\$600 to under \$650	2	0.10
\$650 to under \$700	5	0.25
\$700 to under \$750	3	0.15
\$750 to under \$800	8	0.40
\$800 to under \$850	2	0.10
Total	20	1.00

$$P(\$700 \leq x < \$750) = 0.15$$

Answer Key
Testname: C2

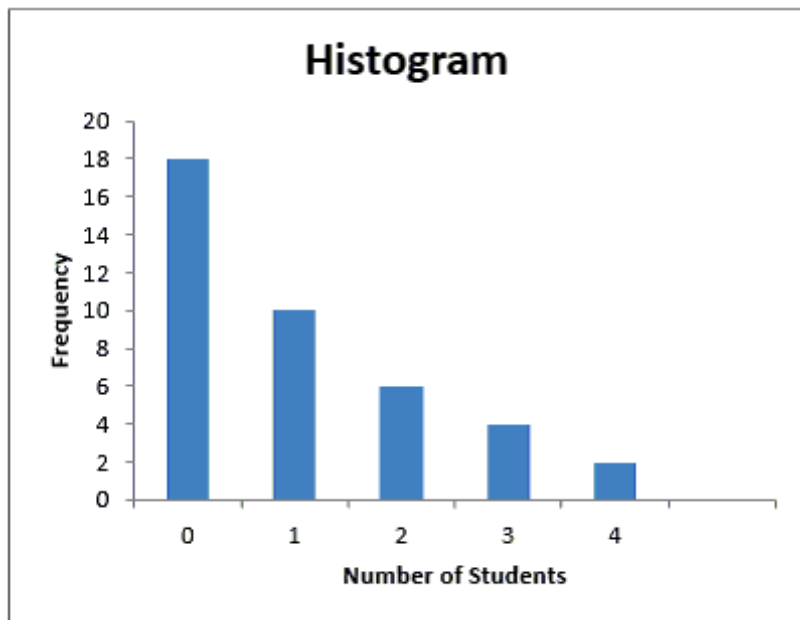
121) Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

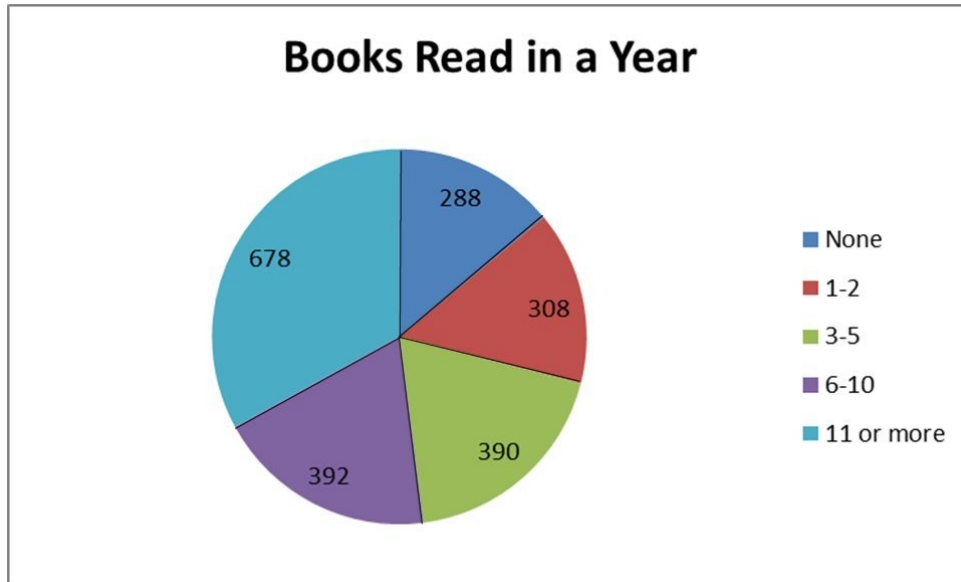
Monthly Rent	Frequency
\$600 to under \$650	2
\$650 to under \$700	5
\$700 to under \$750	3
\$750 to under \$800	8
\$800 to under \$850	2
Total	20

122)

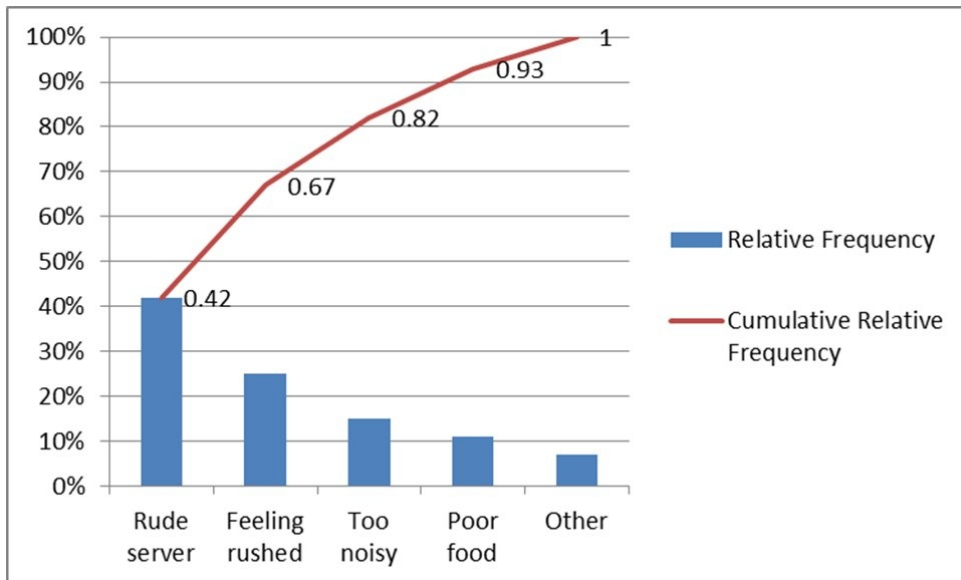
Number of Students	Frequency
0	18
1	10
2	6
3	4
4	2
Total	40



123)



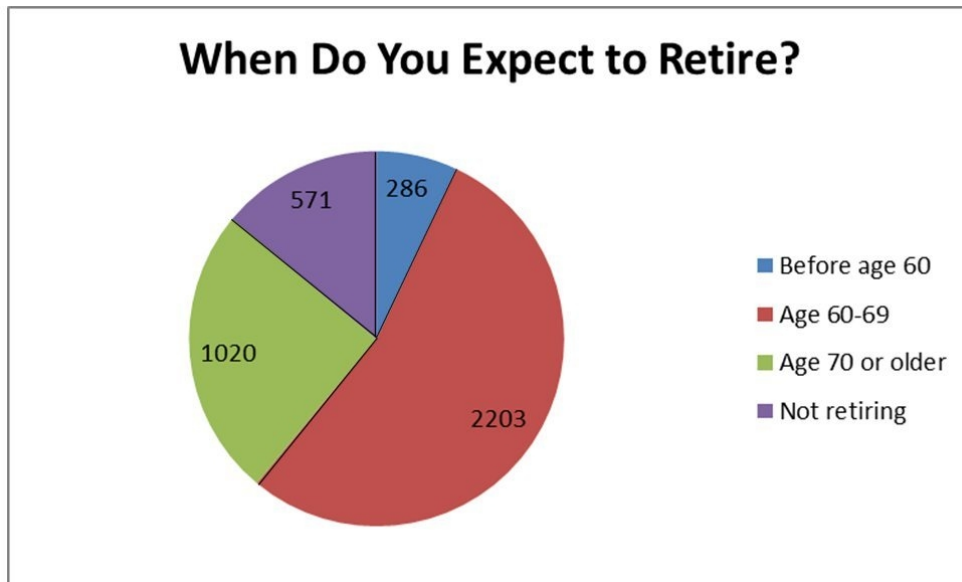
124)



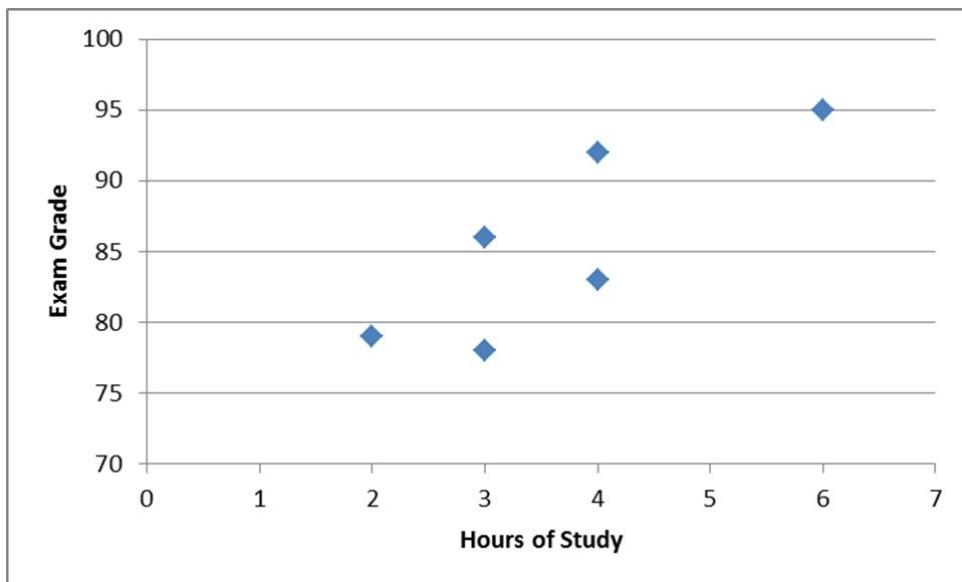
125)

	Landscape	Flower
8x10	1	3
11x14	4	4
13x19	5	1

126)

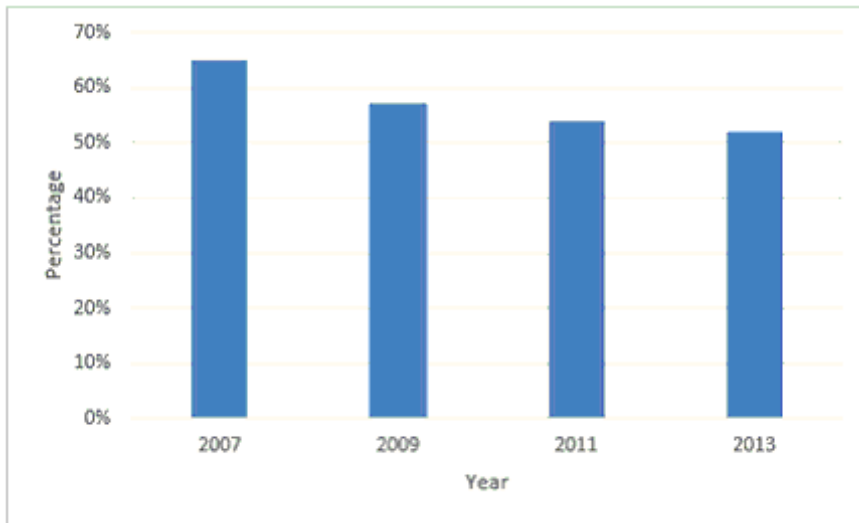


127)

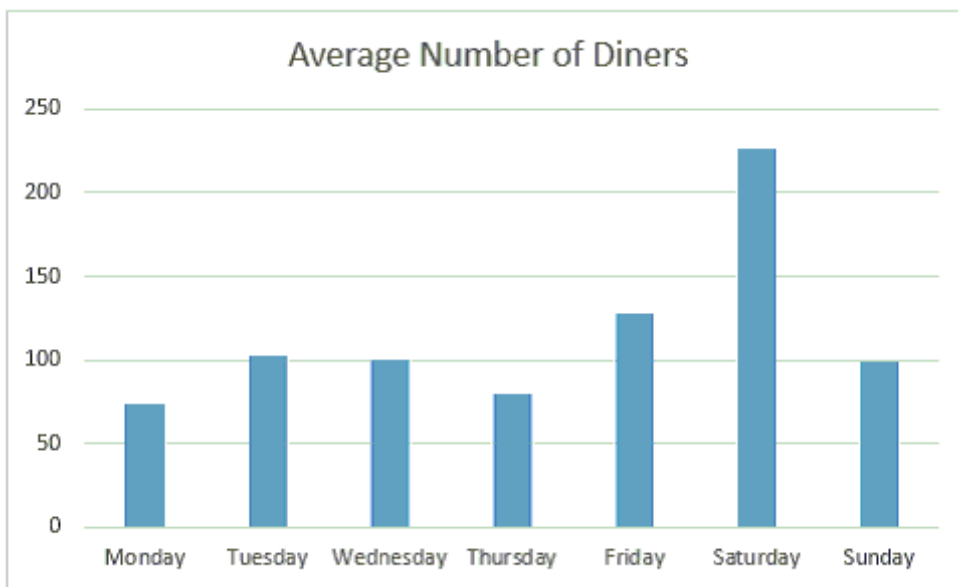


It appears that the students who studied longer, in general, did better on the exam.

128)



129)



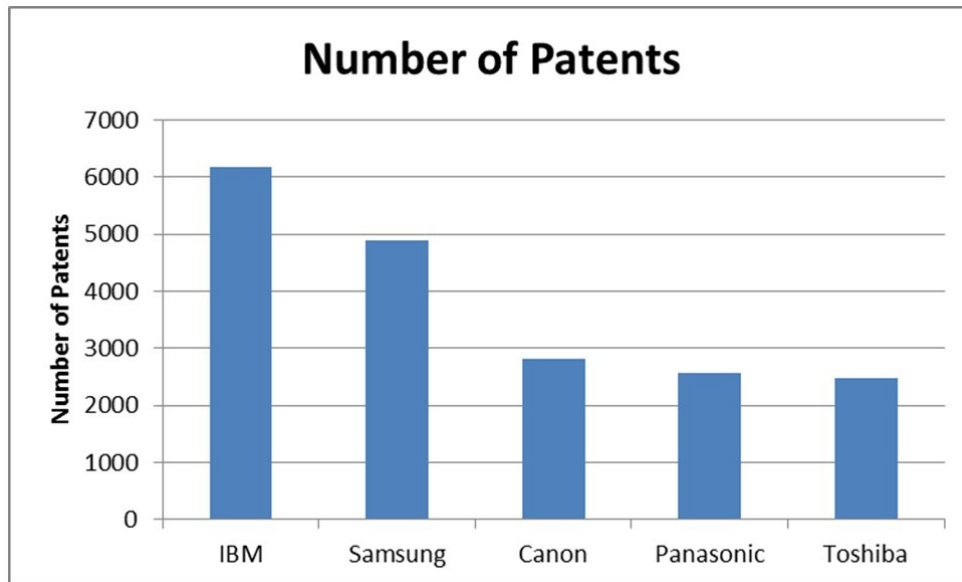
130) Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

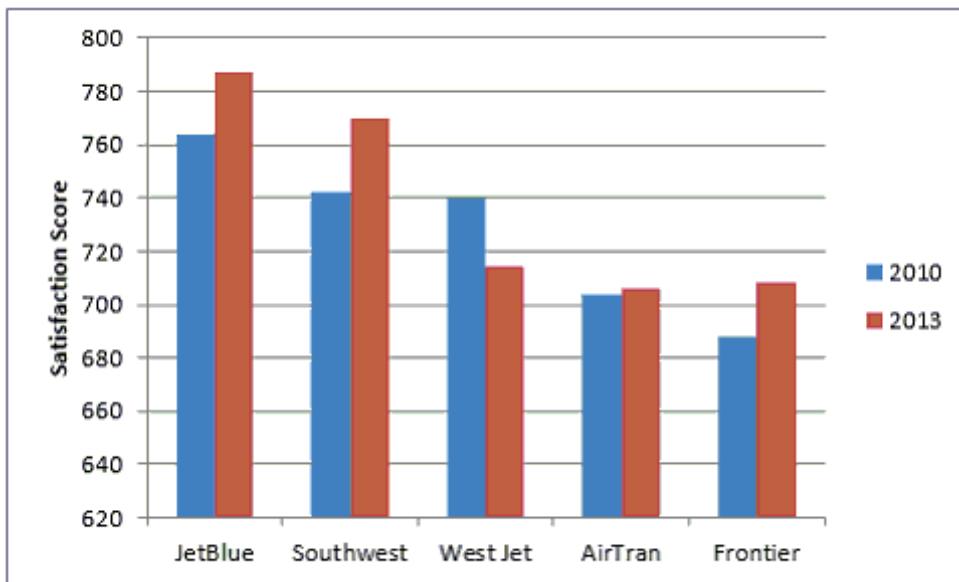
Number of Pairs	Frequency	Relative Frequency
1 - 5	2	0.08
6 - 10	5	0.20
11 - 15	9	0.36
16 - 20	6	0.24
21 - 25	3	0.12
Total	25	1.00

$$P(6 \leq x \leq 10) = 0.20$$

131)



132)



133)

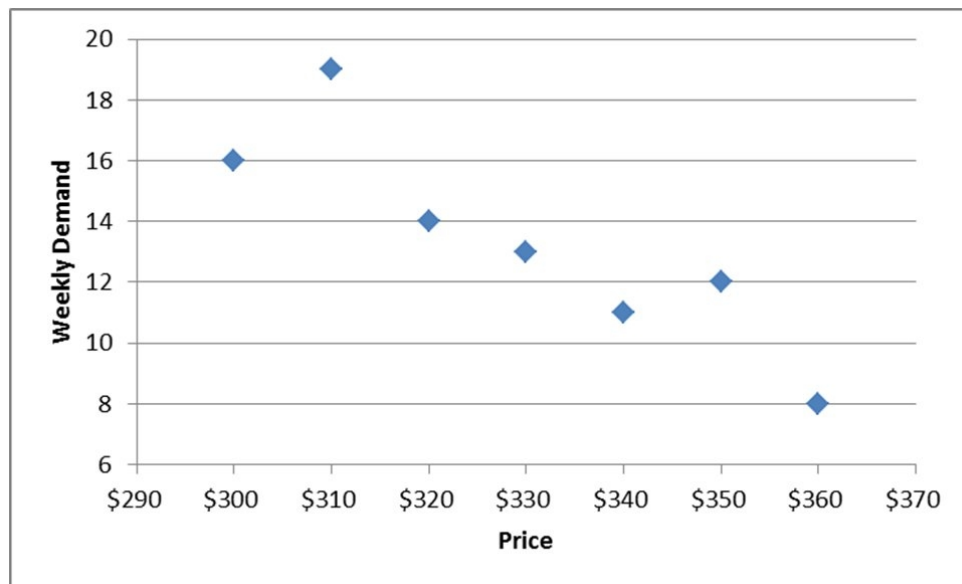
	Standard	Executive
Female	4	7
Male	6	3

134)

Number of Students	Frequency	Relative Frequency	Cumulative Relative Frequency
0	18	0.45	0.45
1	10	0.25	0.70
2	6	0.15	0.85
3	4	0.10	0.95
4	2	0.05	1.00
Total	40	1.00	

$$P(x < 3) = 0.85$$

135)



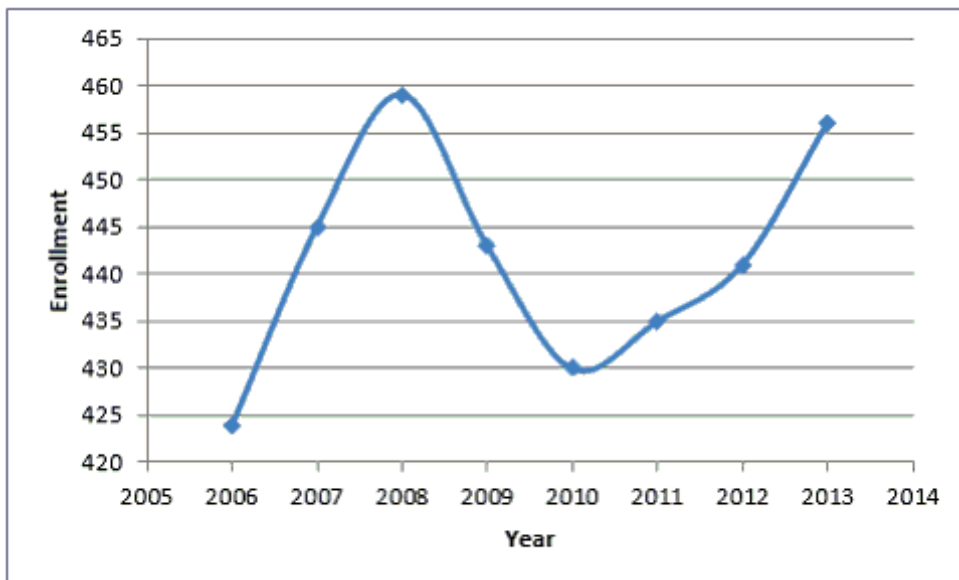
It appears that as the price increases, demand for the camera decreases.

136) Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

Number of Pairs	Frequency
1-5	2
6-10	5
11-15	9
16-20	6
21-25	3
Total	25

137)



138) Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

Number of Pairs	Frequency	Relative Frequency	Cumulative Relative Frequency
1 - 5	2	0.08	0.08
6 - 10	5	0.20	0.28
11 - 15	9	0.36	0.64
16 - 20	6	0.24	0.88
21 - 25	3	0.12	1.00
Total	25	1.00	

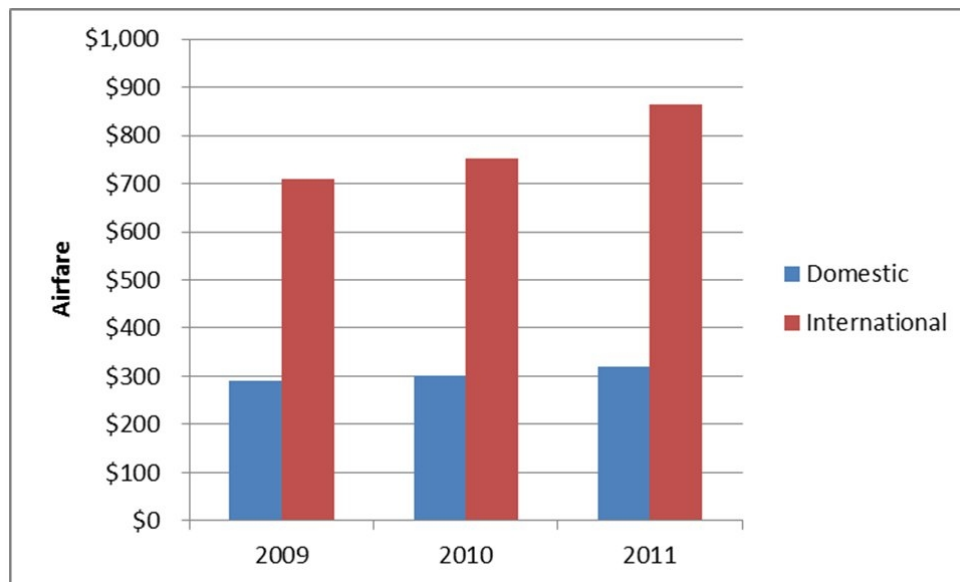
$$P(x \leq 15) = 0.64$$

139) 5 | 2 6 6 8 9

6 | 0 2 5 9

7 | 3 3 4 6 6 7 8

140)



141)

Number of Students	Frequency	Relative Frequency
0	18	0.45
1	10	0.25
2	6	0.15
3	4	0.10
4	2	0.05
Total	40	1.00

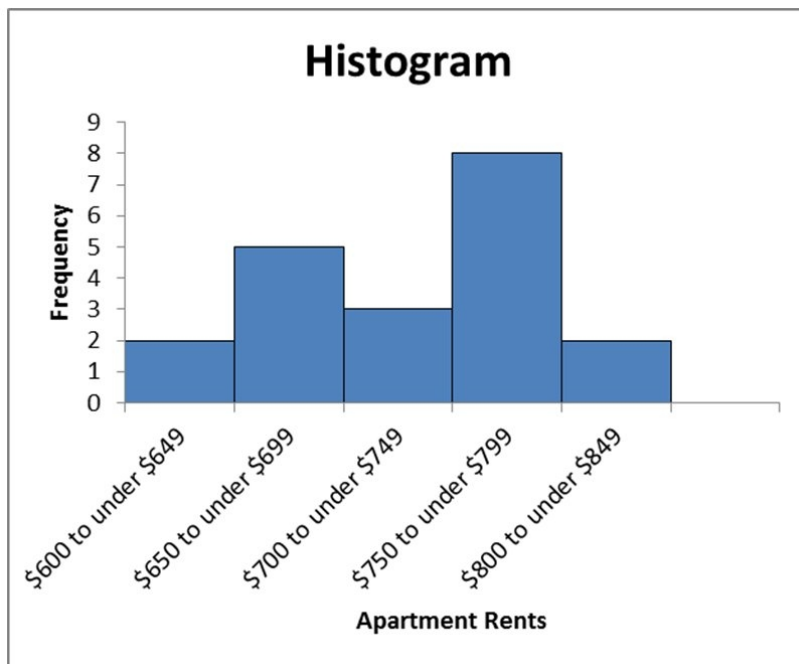
$$P(x = 1) = 0.25$$

Answer Key
Testname: C2

142) Set $k = 5$ because $2^5 = 32 \geq 20$

$$\text{Estimated Class Width} = \frac{\$840 - \$600}{5} = \$48 \approx \$50$$

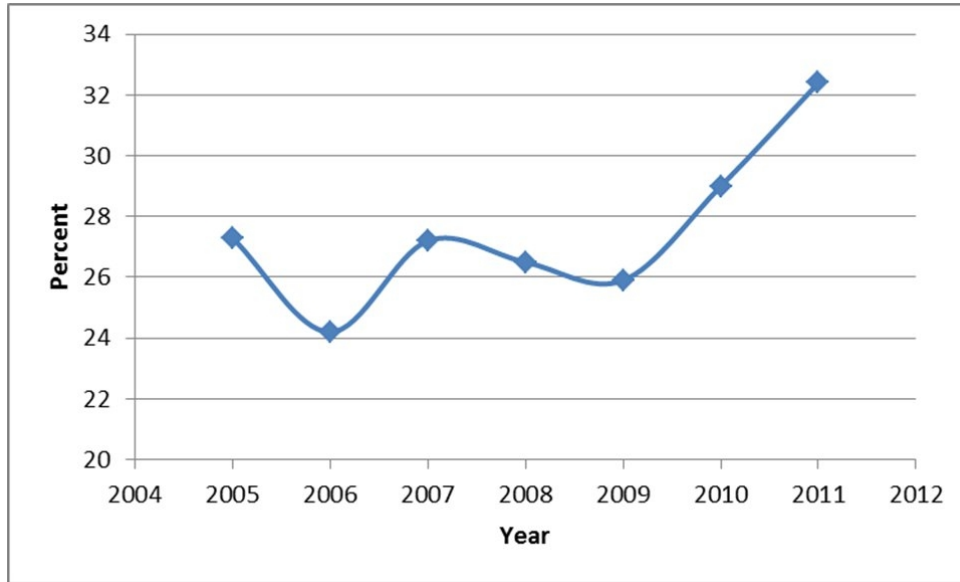
Monthly Rent	Frequency
\$600 to under \$650	2
\$650 to under \$700	5
\$700 to under \$750	3
\$750 to under \$800	8
\$800 to under \$850	2
Total	20



143)

Number of Students	Frequency
0	18
1	10
2	6
3	4
4	2
Total	40

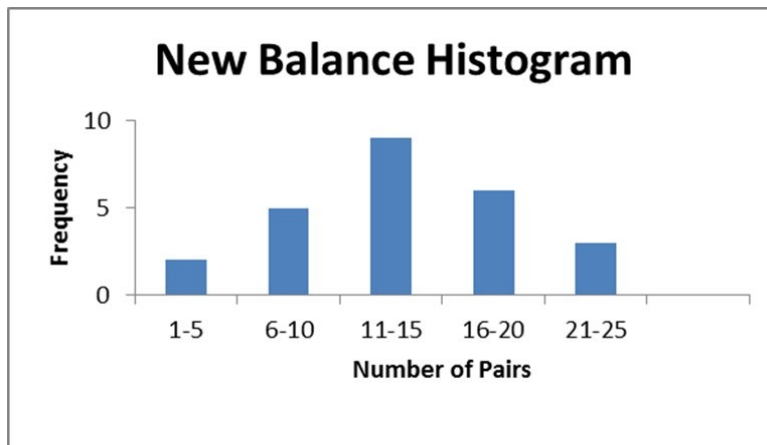
144)



145) Set $k = 5$ because $2^5 = 32 \geq 25$.

$$\text{Estimated Class Width} = \frac{24 - 1}{5} = 4.6 \approx 5$$

Number of Pairs	Frequency
1-5	2
6-10	5
11-15	9
16-20	6
21-25	3
Total	25



Answer Key

Testname: C2

146) 7(5) | 7 7
8(0) | 1 1 2 3 3 4 4
8(5) | 7 7 9
9(0) | 0 2 2 2 3 3
9(5) | 6 7