## Test Bank for Statistics 4th Edition

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## Test Bank:



## CHAPTER 2 Exploring Data with Graphs and Numerical Summaries

Name $\qquad$

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

The heights (in inches) of 30 adult males are listed below. A frequency distribution show the frequency and relative frequency using five classes.

| 70 | 72 | 71 | 70 | 69 | $\mathbf{7 3}$ | $\mathbf{6 9}$ | $\mathbf{6 8}$ | $\mathbf{7 0}$ | $\mathbf{7 1}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{6 7}$ | $\mathbf{7 1}$ | $\mathbf{7 0}$ | $\mathbf{7 4}$ | $\mathbf{6 9}$ | $\mathbf{6 8}$ | $\mathbf{7 1}$ | $\mathbf{7 1}$ | $\mathbf{7 1}$ | $\mathbf{7 2}$ |
| $\mathbf{6 9}$ | $\mathbf{7 1}$ | $\mathbf{6 8}$ | $\mathbf{6 7}$ | $\mathbf{7 3}$ | $\mathbf{7 4}$ | $\mathbf{7 0}$ | $\mathbf{7 1}$ | $\mathbf{6 9}$ | $\mathbf{6 8}$ |


| Height (in inches) | Frequency | Relative Frequency |
| :---: | :---: | :---: |
| 67.0-68.4 | 6 | 0.20 |
| 68.5-69.9 | 5 | 0.167 |
| 70.0-71.4 | 13 | 0.433 |
| 71.5-72.9 | 2 | 0.067 |
| 73.0-74.4 | 4 | 0.133 |

1) Which category of heights represents the mode?
A) 67.0-68.4
B) 68.5-69.9
C) 71.5-72.9
D) 70.0-71.4
E) 73.0-74.4
2) $\qquad$
3) $\qquad$
E) 0.433

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
Provide an appropriate response.
3) A recent survey investigated exposure to tobacco and alcohol use in a
3) $\qquad$ series of G-rated animated films. Data on the total tobacco exposure time (in seconds) is below.

| 223 | 176 | 548 | 37 | 158 | 51 | 299 | 37 | 11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 165 | 74 | 9 | 2 | 6 | 23 | 206 | 9 |  |

Find the Five-Number Summary of Positions.

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

4) Testscoresforahistory classhadameanof79 with astandarddeviationof
4.5.Testscoresforaphysicsclasshad a meanof 69 with astandard deviation of 3.7.

Supposeastudentgetsa 68 on thehistory testanda 87 on the physics test. Calculate the $z$-score foreachtest. On whichtestdidthe student perform better?
A) physics; -2.44
B) history; 4.86
C) physics; 4.86
D) history; 2.44
E) history; -2.44
5) Parking at a large university has become a major issue. University administrators would like to determine the average time it takes a student to find a parking spot in a university lot. Students who are willing to participate in the study were asked to record the time between entering campus and pulling into a parking spot. Which of the following would not be appropriate for displaying the parking time data?
A) Pie chart
B) Stem-and-leaf plot
C) Box plot
D) Histogram
E) None of these should be used.
6) Acompetencytesthasscores witha mean of 69 andastandarddeviation of
4) $\qquad$
5) $\qquad$
6) $\qquad$ 4. Ahistogramof the datashowsthat the distributionisnormal. Usethe EmpiricalRuleto findthepercentageofscoresbetween 61 and 77 .
A) $68 \%$
B) $77 \%$
C) $50 \%$
D) $95 \%$
E) $99.7 \%$
7) Twenty-four workers were surveyed and asked how long it takes them to travel to $\qquad$ work each day. The data below are given in minutes.

203542526520604924372324222041252827 504758303248

Which of the following shows the data in a stem-and-leaf plot?
A)

$$
2 p 002344578
$$

30257
412789
5028
605
B)

2p002344578
30257
412789
5028
$6 p$
C)

2 p02344578
30257
412789
5028
605
D)
$2 p 0002344578$
30257
412789
5028
605
E)

| 2 p 00234457 |  |
| :---: | :---: |
| 3 | 02578 |
| 4 | 12789 |
| 5 | ¢28 |
|  | 05 |

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SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
8) The following frequency histogram provides average $\mathrm{SO}_{2}$ (sulfur dioxide)
8) $\qquad$ emission rates from utility and industrial boilers ( $\mathrm{lb} /$ million Btu) for 47 states (data for Idaho, Alaska, and Hawaii omitted).

## Average Sulfur Dioxide Emission


a. Identify the intervals of emission rates used for the plot.
b. Describe the shape of the distribution.
c. What information can you get from the dot plot or stem-and-leaf plot of these data that you cannot get from this plot?
d. This histogram shows frequencies. If you were to construct a histogram using the percentages for each interval, how (if at all) would the shape of this histogram change?
9) The table below summarizes total enrollment and female enrollment at a pilot training college for the years 2005 through 2012. The table has been used to construct two different graphs displayed below the table. Summarize the information that is available from each of the graphs and discuss the advantages and disadvantages of each graph.

## Enrollment at Pilot Training College

9) $\qquad$

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| Year | Total Number <br> of Students | Number of <br> Female Students |
| :---: | :---: | :---: |
| 2005 | 283 | 20 |
| 2006 | 275 | 22 |
| 2007 | 265 | 22 |
| 2008 | 258 | 24 |
| 2009 | 252 | 25 |
| 2010 | 248 | 25 |
| 2011 | 245 | 27 |
| 2012 | 242 | 28 |



-     -         - Total enrollment
__ Female enrollment

Female Enrollment at Pilot Training College

10) A sample of 324 randomly selected doctors was asked to indicate the
10) $\qquad$ category that best described how often they used the Internet. The results follow.

| Internet Usage Pattern | Count |
| :--- | :---: |
| Never | 31 |
| Rarely (about 3 times per year) | 15 |
| Occasionally (about once a month) | 52 |
| Often (about once a week) | 109 |
| Daily | 117 |

a. Construct a pie chart for these data.
b. In creating a bar graph of these data, would it be more useful to list the patterns as given in the table above or in the order of a Pareto chart?

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

 question.11) Brandon kept track of the number of hours he spent exercising each week for four
12) $\qquad$ months. The results are shown below. Find the mean number of hours Brandon spent exercising per week. Round your answer to two decimal places.

| 7.50 | 8.20 | 7.10 | 7.90 | 8.00 | 7.50 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 7.80 | 7.10 | 7.30 | 7.50 | 7.90 | 8.90 |
| 7.10 | 8.20 | 8.20 | 8.20 | 8.00 | 7.80 |

A) 8.01
B) 7.30
C) 8.25
D) 7.79
E) 7.38
12) Each year advertisers spend billions of dollars purchasing commercial time onnetworksports television. Arecentarticlelistedthetop 10leading spenders (in millions of dollars) over a 6 month period:

| Company A | $\$ 72.0$ | Company F | $\$ 26.9$ |
| :--- | ---: | :--- | ---: |
| Company B | 63.1 | Company G | 25.0 |
| Company C | 54.7 | Company H | 23.9 |
| Company D | 54.3 | Company I | 23.0 |
| Company E | 29.0 | Company J | 20.0 |

Which of the following graphs would not be appropriate for displaying this data?
A) Stem-and-leaf plot
B) Histogram
C) Piechart
D) Dotplot
E) None of these should be used.

## A graphical display of a data set is given. Identify the overall shape of the distribution.

13) Theagesofagroupof patientsbeingtreatedatonehospitalforosteoporosis are summarized in $\qquad$ the frequency histogram below.


Which of the following best describes the shape of the distribution?
A) Skewed to theright
B) Skewed to theleft
C) Symmetric
D) Multimodal
E) Bimodal

## Provide an appropriate response.

14) A safety engineer wishes to use the following data to show the number of deaths
15) $\qquad$ in a year from the collision of passenger cars with trucks on a particular highway.

| Year | Number of Deaths |
| :---: | :---: |
| 1 | 12 |
| 2 | 17 |
| 3 | 22 |
| 4 | 21 |
| 5 | 16 |
| 6 | 13 |
| 7 | 11 |
| 8 | 12 |

What is the mode of the number of deaths?
A) 22
B) 12
C) 15.5
D) 16
E) 13

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
15) The table below shows the unemployment rate in one city from 2003 to
15) $\qquad$ 2012.

| Year |  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Unemployment |  |  |  |  |  |  |  |  |  |  |  |
| Rate (Percent) | 5.90 | 5.78 | 5.45 | 5.28 | 5.06 | 4.88 | 4.80 | 4.63 | 4 |  |  |

a. Construct a time plot for these data.
b. Is there a trend? If so, what kind?
c. Would a histogram more clearly describe the above dataset?

Explain.

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

 question.16) Use the following summary information for a data set of 100 observations to
17) $\qquad$ determine whether the data set is likely to be bell-shaped, skewed to the right or skewed to the left.

Mean $=120, \mathrm{~s}=22$, Minimum=103, Maximum=170
A) skewed to the left
B) bell-shaped
C) skewed to the right
D) unable to determine from the information given
17) The following is a time plot of wine exports (in millions of gallons) in a certain
17) $\qquad$ country for the past 15 years. Is there a trend evident in the data?

A) yes, increasing trend
B) no trend evident
C) yes, decreasing trend

A sample of fifty motorists was taken on a Federal highway where the speed limit was 60 miles per hour. A dot plot of their speeds is shown below.

18) What is the mode for speed?
A) 70
B) 60
C) 7
D) 55
E) none of these
19) What proportion of the motorists were speeding?
18) $\qquad$
A) 2
B) 0.22
C) 0.72
D) 0.04
E) 0.18

## Answer true or false.

20) Bar graphs and pie charts are graphical methods that are often used in summarizing
21) $\qquad$ quantitative data.
A) True
B) False

Select the most appropriate answer.
21) Whichofthefollowing is adiscrete variable?
21) $\qquad$
A) time it takes to drive to work
B) weight of a newborn baby
C) none of these
D) number of phonesperhousehold
E) amountofcoffee in an 8-ouncecup

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
Fill in the blank.
22) A variable is called $\qquad$ if eachobservation belongs
22) $\qquad$
to one of a set of categories.
23) The $\qquad$ is the balance point of the data values;
23) $\qquad$
while, the $\qquad$ is the midpoint of the ordered data
values.

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

A sporting goods retailer conducted a customer survey to determine its customers primary reason for shopping at their store. The results are shown in the graph below.

24) Is the variable "reason for shopping at our store" categorical or quantitative?
24) $\qquad$
A) Categorical
B) Quantitative

The following data show the number of laps run by each participant in a timed running race:
466555435148573043493256
25) If the stems are $3,4,5$ and 6 , how many leaves are on the " 4 stem"?
25) $\qquad$
A) 4
B) 5
C) 1
D) 0

## Answer Key

Testname: CHAPTER 2 FORM A TEST

1) $D$
2) C
3) minimum $=2$ seconds, $\mathrm{Q} 1=10$ seconds, median $=51$ seconds, $\mathrm{Q} 3=191$ seconds, and maximum $=548$ seconds
4) C
5) A
6) $D$
7) A
8) a. 0 to $0.49,0.5$ to $0.99,1.0$ to $1.49,1.5$ to $1.99,2.0$ to $2.49,2.5$ to $2.99,3.0$ to $3.49,3.5$ to $3.99,4.0$ to $4.49,4.5$ to 4.99 ; b. The distribution is skewed to the right. c. You can get the actual data values from a dot plot or stem-and-leaf plot. d. The shape would not change.
9) The first graph shows the total numbers of students for each year as well as the number of female students. We can see the downward trend in overall enrollment, the slight upward trend in female enrollment and that female enrollment is small relative to total enrollment. However, with both total and female enrollment on the same graph, since female enrollment is small relative to total enrollment, the scale is not suitable for female enrollment and the upward trend in female enrollment is not very clear. This upward trend is much clearer from the second graph which shows female enrollment alone, However this graph gives no indication of how female enrollment compares to total enrollment.
10) a.

## Internet Usage Pattern


b. Since the categories of Internet usage pattern have a natural order from never to daily, it makes more sense to leave the categories in this natural order rather than ordering them from the tallest bar to the shortest bar.
11) $D$
12) $C$
13) $B$
14) B
15) a .

Unemployment Rate 2003-2012

b. There is a clear decreasing trend over time; c. No, a histogram would not depict the trend in this dataset.
16) C
17) A
18) $D$
19) E
20) B
21) D
22) categorical
23) mean; median
24) $A$
25) B

## CHAPTER 2 FORM B TEST

Name $\qquad$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
Provide an appropriate response.

1) The following frequency histogram provides average $\mathrm{SO}_{2}$ (sulfur dioxide)
2) $\qquad$ emission rates from utility and industrial boilers (lb/million Btu) for 47 states (data for Idaho, Alaska, and Hawaii omitted).

## Average Sulfur Dioxide Emission


a. Identify the intervals of emission rates used for the plot.
b. Describe the shape of the distribution.
c. What information can you get from the dot plot or stem-and-leaf plot of these data that you
cannot get from this plot?
d. This histogram shows frequencies. If you were to construct a histogram using the percentages
for each interval, how (if at all) would the shape of this histogram change?

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

 question.2) Parking at a large university has become a major issue. University administrators
3) $\qquad$ wouldliketodeterminetheaveragetimeittakesastudent tofindaparking spotinauniversity lot. Students who are willing to participate in the study were asked to record the time between entering campus and pulling into a parking spot. Which of the following would not be appropriate for displaying the parking time data?
A) Stem-and-leaf plot
B) Histogram
C) None of these should be used.
D) Boxplot
E) Piechart

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
3) A sample of 324 randomly selected doctors was asked to indicate the
3) $\qquad$ category that best described how often they used the Internet. The results follow.

| Internet Usage Pattern | Count |
| :--- | :---: |
| Never | 31 |
| Rarely (about 3 times per year) | 15 |
| Occasionally (about once a month) | 52 |
| Often (about once a week) | 109 |
| Daily | 117 |

a. Construct a pie chart for these data.
b. In creating a bar graph of these data, would it be more useful to list the patterns as given in the table above or in the order of a Pareto chart?
4) The table below shows the unemployment rate in one city from 2003 to
4) $\qquad$ 2012.

| Year | 2003 |  |  |  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Unemployment <br> Rate (Percent) | 5.90 | 5.78 | 5.45 | 5.28 | 5.06 | 4.88 | 4.80 | 4.63 | 4 |  |  |

a. Construct a time plot for these data.
b. Is there a trend? If so, what kind?
c. Would a histogram more clearly describe the above dataset?

Explain.

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

5) Usethe following summary informationfora dataset of 100 observations to determine whether
6) the data set is likely to be bell -shaped, skewed tot right or skewed to the left.

Mean $=120, s=22$, Minimum=37, Maximum=136
A) bell-shaped
B) skewed to theleft
C) skewed to theright
D) unable to determine from the information given
6) Brandon kept track of the number of hours he spent exercising each week for four months. The results are shown below. Find the mean number of hours Brandon spent exercising per week. Round your answer to two decimal places.

| 7.50 | 8.20 | 7.10 | 7.90 | 8.00 | 7.50 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 7.80 | 7.10 | 7.30 | 7.50 | 7.90 | 8.90 |
| 7.10 | 8.20 | 8.20 | 8.20 | 8.00 | 7.80 |

A) 7.38
B) 8.01
C) 7.30
D) 7.79
E) 8.25
7) Usethefollowingsummary informationforadatasetof 100 observationsto determine whether
6) $\qquad$ the data set is likely to be bell-shaped, skewed to the right or skewed to the left.

Mean $=120, \mathrm{~s}=22$, Minimum=103, Maximum=170
A) skewed to theright
B) bell-shaped
C) unable to determine from the information given
D) skewed to theleft

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
8) The following data represent the number of grams of fat in various
8) $\qquad$ breakfast foods.

| Breakfast Food | Fat (in grams) |
| :--- | :---: |
| Muffin and egg sandwich | 12 |
| Muffin, egg, and ham sandwich | 22 |
| Muffin, egg, and bacon sandwich | 27 |
| Muffin and sausage sandwich | 22 |
| Bagel, egg, and ham sandwich | 25 |
| Bagel, egg, and bacon sandwich | 30 |
| Bagel, egg, and sausage sandwich | 32 |
| Bagel, egg, sausage, and cheese sandwich 37 |  |
| Bagel, egge, ham, and cheese sandwich | 27 |
| Bagel, egg, bacon, and cheese sandwich | 31 |
| Bagel | 11 |
| Pancakes platter | 16 |
| Pancakes and eggs platter | 21 |
| Pancakes, eggs, and bacon platter | 32 |
| Yogurt | 2 |

Construct a dot plot for these data.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.
9) SAT verbal scores are normally distributed with a mean of 433 and a standard
9) $\qquad$ deviation of 90 . Use the Empirical Rule to determine what percent of the scores lie between 433 and 523 .
A) $47.5 \%$
B) $68 \%$
C) $51 \%$
D) $49.9 \%$
E) $34 \%$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
10) The table below summarizes total enrollment and female enrollment at a
10) $\qquad$ pilot training college for the years 2005 through 2012. The table has been used to construct two different graphs displayed below the table. Summarize the information that is available from each of the graphs and discuss the advantages and disadvantages of each graph.

## Enrollment at Pilot Training College

| Year | Total Number <br> of Students | Number of <br> Female Students |  |
| :---: | :---: | :---: | :---: |
| 2005 | 283 | 20 |  |
| 2006 | 275 | 22 |  |
| 2007 | 265 | 22 |  |
| 2008 | 258 | 24 |  |
| 2009 | 252 | 25 |  |
| 2010 | 248 | 25 |  |
| 2011 | 245 | 27 |  |
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## MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

11) Each year advertisers spend billions of dollars purchasing commercial time onnetworksports
12) television. Arecentarticlelistedthetop 10leading spenders (in millions of dollars) over a 6 month period:

| Company A | $\$ 72.0$ | Company F | $\$ 26.9$ |
| :--- | ---: | :--- | ---: |
| Company B | 63.1 | Company G | 25.0 |
| Company C | 54.7 | Company H | 23.9 |
| Company D | 54.3 | Company I | 23.0 |
| Company E | 29.0 | Company J | 20.0 |

Which of the following graphs would not be appropriate for displaying this data?
A) None of these should be used.
B) Pie chart
C) Stem-and-leaf plot
D) Histogram
E) Dot plot
12) Twenty-four workers were surveyed and asked how long it takes them to travel to
12) $\qquad$ work each day. The data below are given in minutes.

## 203542526520604924372324222041252827 504758303248

Which of the following shows the data in a stem-and-leaf plot?
A)

| 2 | 0 | 0 | 234457 |
| :--- | :--- | :--- | :--- | :--- |
| 3 | 0 | 2578 |  |
| 4 | 12789 |  |  |
| 5 | 28 |  |  |

B)

2p02344578
30257
412789
5028
605
C)

2p002344578
30257
412789
5028
60
D)

2p002344578
30257
412789
5028
605
E)

2p0002344578
30257
412789
5028
605

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
13) A recent survey investigated exposure to tobacco and alcohol use in a series of G-rated animated films. Data on the total tobacco exposure time (in seconds) is below.

| 223 | 176 | 548 | 37 | 158 | 51 | 299 | 37 | 11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 165 | 74 | 9 | 2 | 6 | 23 | 206 | 9 |  |

Find the Five-Number Summary of Positions.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.
14) A safety engineer wishes to use the following data to show the number of deaths in a year from the collision of passenger cars with trucks on a particular highway.

| Year | Number of Deaths |
| :---: | :---: |
| 1 | 12 |
| 2 | 17 |
| 3 | 22 |
| 4 | 21 |
| 5 | 16 |
| 6 | 13 |
| 7 | 11 |
| 8 | 12 |

What is the mode of the number of deaths?
A) 13
B) 22
C) 16
D) 15.5
E) 12
15) The following is a time plot of wine exports (in millions of gallons) in a certain country for the past 15 years. Is there a trend evident in the data?

A) yes, decreasing trend
B) no trend evident
C) yes, increasing trend

The following data show the number of laps run by each participant in a timed running race:
466555435148573043493256
16) If the stems are $3,4,5$ and 6 , how many leaves are on the " 4 stem"?
16) $\qquad$
A) 0
B) 5
C) 1
D) 4

## Select the most appropriate answer.

17) Which ofthe following is adiscrete variable?
18) $\qquad$
A) weight of a newborn baby
B) none of these
C) numberof phones perhousehold
D) amount of coffeein an 8-ouncecup
E) time it takes to drive to work

## Classify as categorical or qualitative data.

18) A survey of automobiles parked in the student and staff lots at a large college recorded the
19) $\qquad$ make and model of the automobiles. The variable "make" is:
A) Quantitative
B) Categorical

A sample of fifty motorists was taken on a Federal highway where the speed limit was 60 miles per hour. A dot plot of their speeds is shown below.

19) What is the mode for speed?
19) $\qquad$
A) 70
B) 55
C) 60
D) 7
E) none of these

## Answer true or false.

20) Bar graphs and pie charts are graphical methods that are often used in summarizing
21) $\qquad$ quantitative data.
A) True
B) False

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
Fill in the blank.
21) A variable is called $\qquad$ if eachobservation belongs
21) $\qquad$ to one of a set of categories.
22) The $\qquad$ is the balance point of the data values;
22) $\qquad$ while, the $\qquad$ is the midpoint of the ordered data values.

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

A sporting goods retailer conducted a customer survey to determine its customers primary reason for shopping at their store. The results are shown in the graph below.

23) Is the variable "reason for shopping at our store" categorical or quantitative?
23) $\qquad$
A) Quantitative
B) Categorical

The heights (in inches) of 30 adult males are listed below. A frequency distribution show the frequency and relative frequency using five classes.

| 70 | 72 | 71 | 70 | 69 | $\mathbf{7 3}$ | $\mathbf{6 9}$ | $\mathbf{6 8}$ | $\mathbf{7 0}$ | $\mathbf{7 1}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{6 7}$ | $\mathbf{7 1}$ | $\mathbf{7 0}$ | $\mathbf{7 4}$ | $\mathbf{6 9}$ | $\mathbf{6 8}$ | $\mathbf{7 1}$ | $\mathbf{7 1}$ | $\mathbf{7 1}$ | $\mathbf{7 2}$ |
| $\mathbf{6 9}$ | $\mathbf{7 1}$ | $\mathbf{6 8}$ | $\mathbf{6 7}$ | $\mathbf{7 3}$ | $\mathbf{7 4}$ | $\mathbf{7 0}$ | $\mathbf{7 1}$ | $\mathbf{6 9}$ | $\mathbf{6 8}$ |


| Height (in inches) | Frequency | Relative Frequency |
| :---: | :---: | :---: |
| 67.0-68.4 | 6 | 0.20 |
| 68.5-69.9 | 5 | 0.167 |
| 70.0-71.4 | 13 | 0.433 |
| 71.5-72.9 | 2 | 0.067 |
| 73.0-74.4 | 4 | 0.133 |

24) What proportion of the 30 adult males had heights less than 70 inches?
25) $\qquad$
A) 0.367
B) 36.7
C) $16.7 \%$
D) 0.433
E) 0.167
26) Which category of heights represents the mode?
27) $\qquad$
A) 70.0-71.4
B) 67.0-68.4
C) 68.5-69.9
D) 73.0-74.4
E) 71.5-72.9
28) a. 0 to $0.49,0.5$ to $0.99,1.0$ to $1.49,1.5$ to $1.99,2.0$ to $2.49,2.5$ to $2.99,3.0$ to $3.49,3.5$ to $3.99,4.0$ to $4.49,4.5$ to 4.99 ; b. The distribution is skewed to the right. c. You can get the actual data values from a dot plot or stem-and-leaf plot. d. The shape would not change.
29) $E$
30) a.

## Internet Usage Pattern


b. Since the categories of Internet usage pattern have a natural order from never to daily, it makes more sense to leave the categories in this natural order rather than ordering them from the tallest bar to the shortest bar.

## Answer Key

Testname: CHAPTER 2 FORM B TEST
4) $a$.

Unemployment Rate 2003-2012

b. There is a clear decreasing trend over time; c. No, a histogram would not depict the trend in this dataset.
5) $B$
6) D
7) A
8)

## Grams of Fat in Breakfast Food Items


9) E
10) The first graph shows the total numbers of students for each year as well as the number of female students. We can see the downward trend in overall enrollment, the slight upward trend in female enrollment and that female enrollment is small relative to total enrollment. However, with both total and female enrollment on the same graph, since female enrollment is small relative to total enrollment, the scale is not suitable for female enrollment and the upward trend in female enrollment is not very clear. This upward trend is much clearer from the second graph which shows female enrollment alone, However this graph gives no indication of how female enrollment compares to total enrollment.
11) $B$
12) $D$
13) minimum $=2$ seconds, $\mathrm{Q} 1=10$ seconds, median $=51$ seconds, $\mathrm{Q} 3=191$ seconds, and maximum $=548$ seconds
14) $E$
15) C
16) B
17) C
18) B
19) B

Testname: CHAPTER 2 FORM B TEST
20) $B$
21) categorical
22) mean; median
23) $B$
24) $A$
25) A


[^0]:    __ Female enrollment

