Week 3: 9/7-9/11   Math I   Due: 9/14

Objectives:
1. To review contents of Chapter 6.
2. To assess knowledge of Chapter 6.
3. To prepare for Chapter 1.
4.

| |
|---|
| **Monday:**
In Class:
No Class. Holiday
Homework:
None |
| **Tuesday:**
In Class:
Review Chapter 6
Complete Chapter 6 Practice Test attached to this sheet. (Work MUST be shown for full credit)
***Be sure to login to www.pearsonsuccessnet.com to complete practice test. Click "To Do" tab and put in your answers to get an immediate score. The site will tell you which sections you need more work on before you take the test on Thursday.
Homework:
Complete Chapter 6 Practice Test |
| **Wednesday:**
Study for Chapter 6 Test.
You are allowed one sheet, one sided to use to put notes on and use on the test. |
| **Thursday:**
In Class:
Chapter 6 Test
Homework:
None |
| **Friday:**
Homework:
Complete "Getting Ready for Chapter 1" on page 1 of your textbook. |

1   Tell whether the histogram is *uniform*, *symmetric*, or *skewed*.
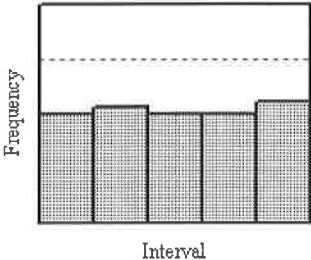
A   uniform
B   symmetric
C   skewed

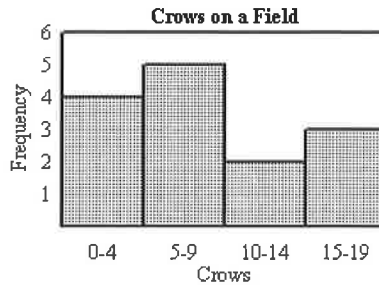2   Tell whether the histogram is *uniform*, *symmetric*, or *skewed*.
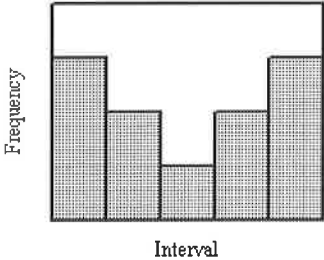
A   uniform
B   symmetric
C   skewed

3   The number of crows observed per day on a certain field over a two-week period is listed below. What is a frequency table and histogram that represents the data?
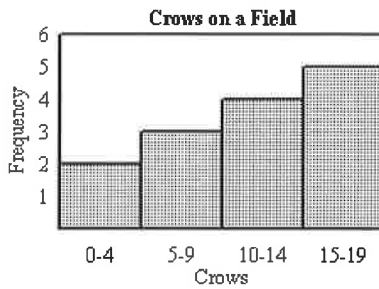1, 3, 2, 5, 10, 8, 9, 15, 0, 7, 12, 13, 6, 18

A

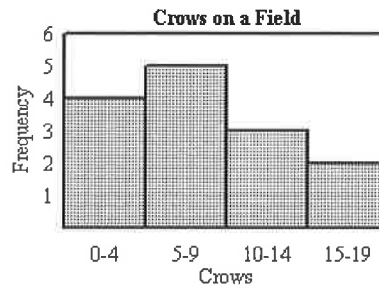| Crows	Frequency
0 – 4	4
5 – 9	5
10 – 14	2
15 – 19	3

Crows on a Field

B

Crows	Frequency
0 – 4	2
5 – 9	3
10 – 14	4
15 – 19	5

Crows on a Field

C

Crows	Frequency
0 – 4	4
5 – 9	5
10 – 14	3
15 – 19	2

Crows on a Field

4   The data below shows the ages of the occupants of a retirement home. What is a
cumulative frequency table that represents the data?
80 85 86 90 96 75 86 70
99 68 70 99 70 73 69 92
72 81 88 91 93 69 77 82

A

Age	Frequency	Cumulative Frequency
60 – 69	3	3
70 – 79	6	9
80 – 89	7	16
90 – 99	8	24

B

Age	Frequency	Cumulative Frequency
60 – 69	3	24
70 – 79	7	24
80 – 89	7	24
90 – 99	7	24

C

Age	Frequency	Cumulative Frequency
60 – 69	7	7
70 – 79	4	11
80 – 89	7	18
90 – 99	6	24

D

| Age	Frequency	Cumulative Frequency
60 – 69	3	3
70 – 79	7	10
80 – 89	7	17
90 – 99	7	24

5   What are the mean, median, mode and range of the following data? Where necessary, round to the nearest whole number. Which measure of central tendency best describes the data?

80, 76, 92, 15, 89, 10, 78, 81, 85, 80, 70, 80, 83, 63, 99, 70, 94, 31, 90, 34, 80, 80

A   Mean = 77, median = 71, mode = 80, range = 99; there are outliers, such as 10, so the range is the best measure to describe the data.

B   Mean = 80, median = 78, mode = 77, range = 71; there are no outliers, so the median is the best measure to describe the data.

C   Mean = 71, median = 79, mode = 80, range = 77; there are outliers, such as 80, so the mode is the best measure to describe the data.

D   Mean = 71, median = 80, mode = 80, range = 89; there are outliers, such as 10, so the median is the best measure to describe the data.

6   Identify the minimum, first quartile, median, third quartile, and maximum of the data set. Then choose the box-and-whisker plot that represents the data.

average daily temperatures in Tucson, Arizona, in December:

49, 58, 49, 65, 58, 59, 66, 49, 56, 53, 60, 65, 59, 58, 54, 59, 54, 63, 57, 56
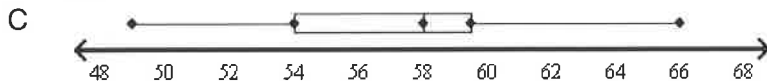
minimum = 54, first quartile = 58, median = 62, third quartile = 64, maximum = 66
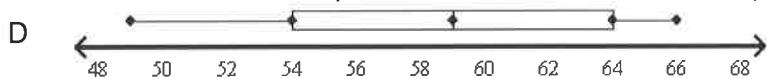
A
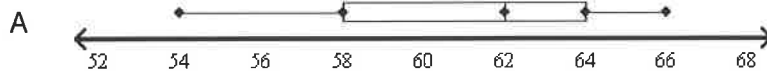
minimum = 49, first quartile = 51.5, median = 58, third quartile = 59.5, maximum = 65

B
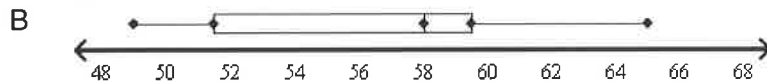
minimum = 49, first quartile = 54, median = 58, third quartile = 59.5, maximum = 66

C

minimum = 49, first quartile = 54, median = 59, third quartile = 64, maximum = 65
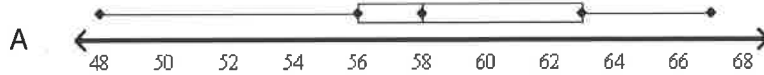
D

7   Identify the minimum, first quartile, median, third quartile, and maximum of the data set.
    Then choose the box-and-whisker plot that represents the data.
    number of customers per day at a golf driving range:
    57, 58, 60, 59, 67, 64, 62, 52, 48, 55, 56, 66, 58, 65, 60, 56, 58, 51, 58, 67

minimum = 48, first quartile = 56, median = 58, third quartile = 63, maximum = 67
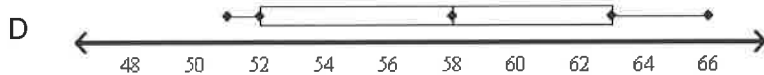
A

minimum = 51, first quartile = 58, median = 59, third quartile = 65, maximum = 67

B

minimum = 48, first quartile = 52, median = 58, third quartile = 63, maximum = 66

C

minimum = 51, first quartile = 58, median = 59, third quartile = 65, maximum = 67

D

8   For 52 math test scores, 50 are less than or equal to 95. What is the approximate
   percentile rank of the score 95?

    A   96
    B   4
    C   85
    D   15

9   When you compare two sets of data, will the set with the greater range always have the greater interquartile range? Explain and give an example.
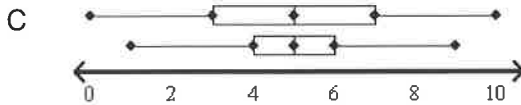
A   Yes; the first box-and-whisker plot below has a larger range and interquartile range than the second.
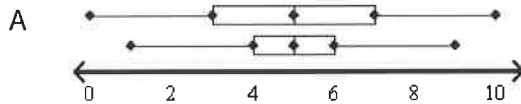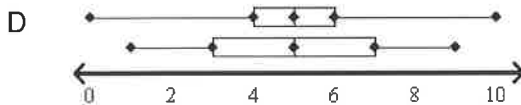

B   Yes; the first box-and-whisker plot below has a larger range and interquartile range than the second.
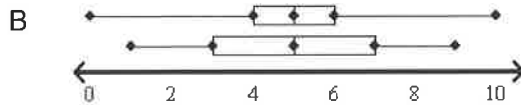
C   No; the first box-and-whisker plot below has a larger range than the second, but a smaller interquartile range.

D   No; the first box-and-whisker plot below has a larger range than the second, but a smaller interquartile range.

10   Mr. Campbell promised that if most people in his class scored above 70% on a test, he would reward the class with a field trip. Which measure(s) of central tendency should you use to represent the test scores? Justify your answer.

A   Mean; if the mean is above 70%, then the class average for the test is above 70%.

B   Median; if the median is above 70%, then over half the class scored above 70%.

C   Mode; if the mode is above 70%, then most people scored above 70%.

D   All measures of central tendency are equally useful. If any of the mean, median or mode is over 70%, then most students in the class scored above 70%.

11   Suppose you ask everyone in the front row of your math class what their favorite animal is. The data you collect is {cat, cat, dog, rabbit, dog, dog}. Which of the measures of central tendency would be most appropriate? Explain your answer.

A   Mean; if you give each animal a number value, you can find the mean of the data and round the number to find the most popular animal.

B   Median; if you order the animals alphabetically, the animal in the middle will be the most popular animal.

C   Mode; the animal that appears the most in the list will be the most popular animal.

D   Range; if you order the animals alphabetically, the least popular animal will come first and the most popular animal will come last.

12   Tell whether the histogram is *uniform*, *symmetric*, or *skewed*.
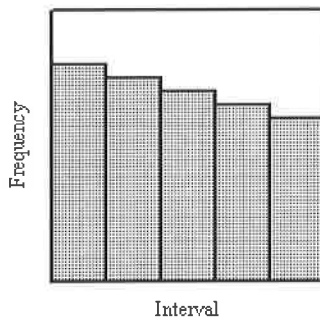
A   uniform
B   symmetric
C   skewed

13   Tell whether the histogram is *uniform*, *symmetric*, or *skewed*.
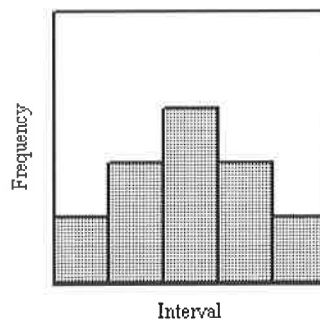
A   uniform
B   symmetric
C   skewed

14   During a typical day, the number of people that get off a city bus at a bus stop is listed below. Choose a frequency table and a histogram that represent the data.
1, 2, 1, 4, 2, 6, 12, 5, 0, 13, 7, 2, 3, 18, 5, 3, 1, 8, 6, 10

A

People	Frequency
0 – 4	10
5 – 9	6
10 – 14	3
15 – 19	1

B

People	Frequency
0 – 4	9
5 – 9	7
10 – 14	3
15 – 19	1

C

People	Frequency
0 – 4	12
5 – 9	5
10 – 14	2
15 – 19	1

D

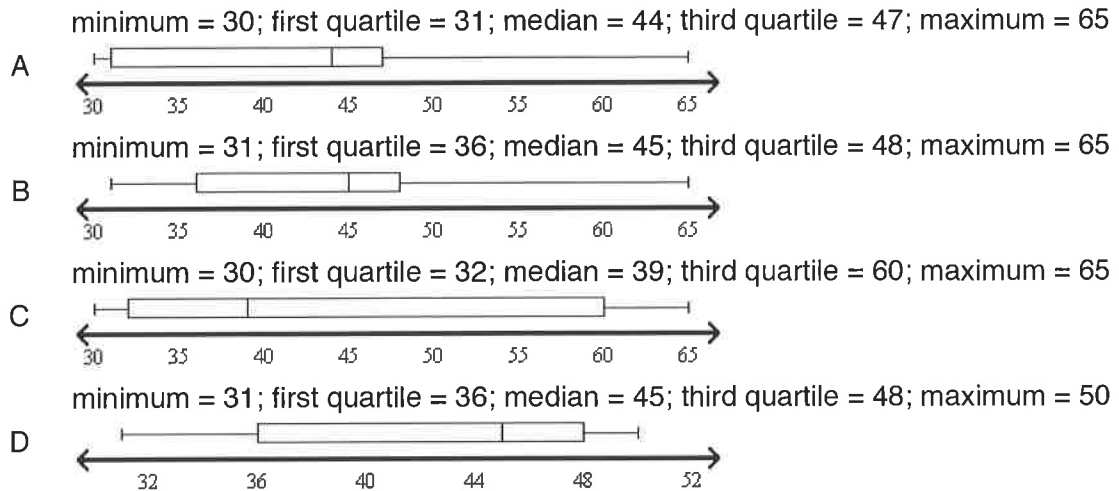| People	Frequency
0 – 4	10
5 – 9	6
10 – 14	2
15 – 19	2

15   What are the mean, median, mode, and range of the set of data?
28, 31, 25, 22, 24, 32, 33, 25, 29, 23, 25

      A   27, 25, 25, 11
      B   27, 32, 25, 3
      C   32, 32, 25, 10
      D   none, 25, 25, 5

16   Identify the minimum, first quartile, median, third quartile, and maximum of the data set. Then make a box-and-whisker plot of the data set.

race times: 50 35 30 45 30 44 46 47 65 31 39

minimum = 30; first quartile = 31; median = 44; third quartile = 47; maximum = 65

A

minimum = 31; first quartile = 36; median = 45; third quartile = 48; maximum = 65

B

minimum = 30; first quartile = 32; median = 39; third quartile = 60; maximum = 65

C

minimum = 31; first quartile = 36; median = 45; third quartile = 48; maximum = 50

D

17   An animal shelter has 12 cats. Of these cats, 5 weigh no more than 7 lbs. What is the approximate percentile rank of the cats that weigh 7 lbs?

    A   5
    B   12
    C   42
    D   58

18   How do you calculate the median of a data set? How is this measure, along with the range of data, useful?
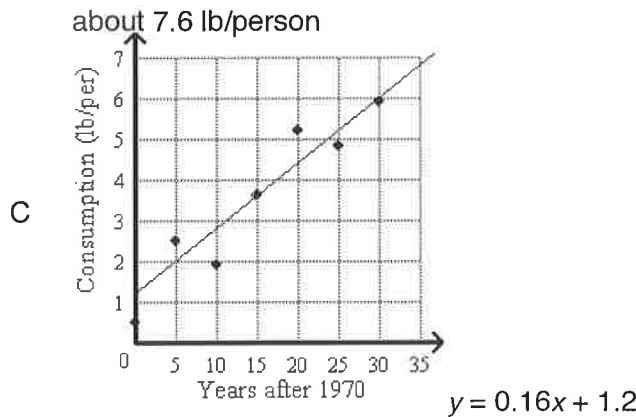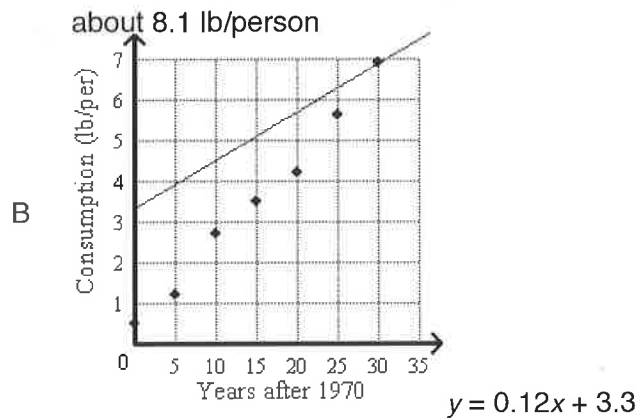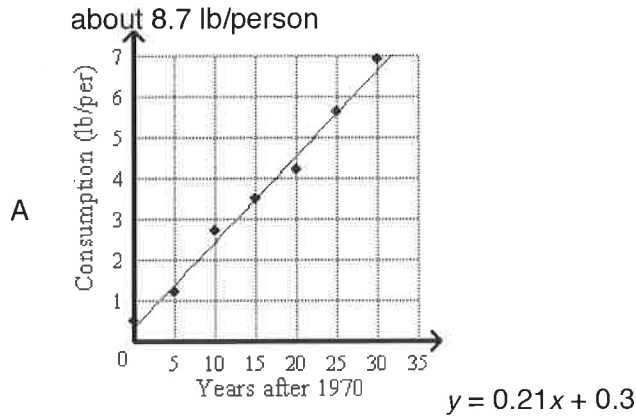
    A   The median is calculated by finding the sum of the data and dividing by the number of data points. The median, along with the range of the data, shows a detailed spread of the data.

    B   The median is found by arranging the data in order and finding the middle number. If there is an even number of data points, the median is the average of the two middle data points. The median, along with the range of the data, shows a rough spread of the data.

    C   The median is found by arranging the data in order and finding the number that occurs most often. The median, along with the range of the data, shows a rough spread of the data.

    D   The median is calculated by finding the difference of the third and first quartiles. The median, along with the range of the data, shows a detailed spread of the data.

19   This table shows the average consumption of broccoli in the United States in pounds per person from 1970 to 2000.

Year	1970	1975	1980	1985	1990	1995	2000	2010
Consumption (lb/per person)	0.5	1.2	2.7	3.5	4.2	5.6	6.9	?

Make a scatter plot and trend line of the data. Use the equation of the trend line to predict how much broccoli the average person will eat in 2010.

A

about 8.7 lb/person

$y = 0.21x + 0.3$

B

about 8.1 lb/person

$y = 0.12x + 3.3$

C

about 7.6 lb/person

$y = 0.16x + 1.2$

20   Use the table. Make a scatter plot relating the distance of various cities from the metro area to the population of the cities.

Distance and Population

City	City A	City B	City C	City D	City E
Distance From Metro Area (mi)	1	5	10	15	20
Population (thousands)	300	275	208	135	108

Distance and Population

A

Distance and Population

B

Distance and Population

C

Population
(thousands)
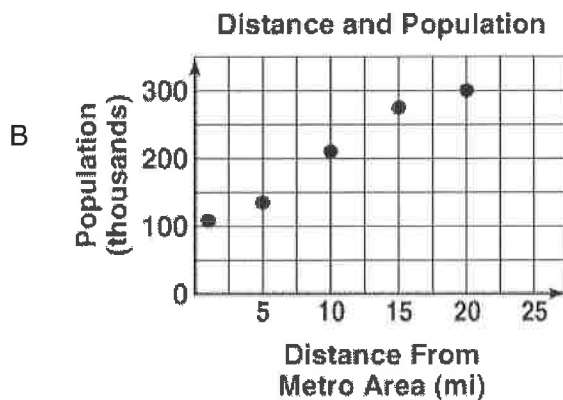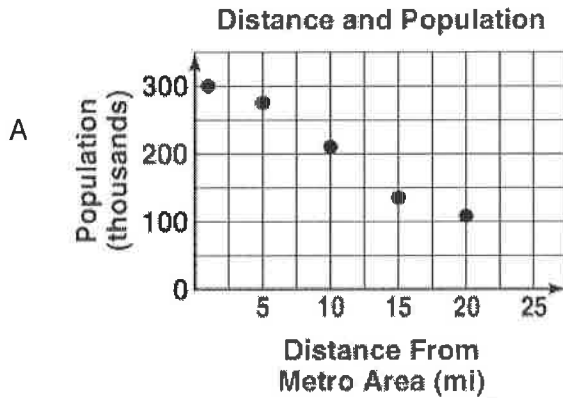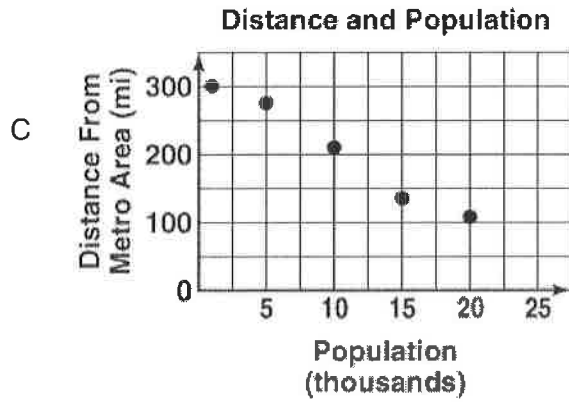
21   What does it mean when a line of best fit has a correlation coefficient close to 0?

       A   The data has a strong positive correlation.

       B   The data has a strong negative correlation.

       C   The data has a weak positive or negative correlation.

       D   The data has no correlation.

22 **A health care company collected data on the types of insurance used by children in 100 randomly selected households. The results are summarized in a table.**

	Vision Insurance			
Dental Insurance		**Yes**	**No**	**Total**
	Yes	7	25	32
	No	27	41	68
	Total	34	66	100

Make a two-way relative frequency table for the data.

A

	Yes	No	Total
Yes	0.22	0.78	0.32
No	0.4	0.6	0.68
Total	0.89	0.49	1

B

	Yes	No	Total
Yes	0.22	0.78	1
No	0.4	0.6	1
Total	0.89	0.49	1

C

	Yes	No	Total
Yes	0.07	0.25	0.32
No	0.27	0.41	0.68
Total	0.34	0.66	1

D

	Yes	No	Total
Yes	0.21	0.38	0.32
No	0.79	0.62	0.68
Total	0.89	0.49	1

23 A health care company collected data on the types of insurance used by children in 100 randomly selected households. The results are summarized in a table.

	Vision Insurance			
Dental Insurance		Yes	No	Total
	Yes	7	25	32
	No	27	41	68
	Total	34	66	100

If it is given that the children of a household have dental insurance, what is the conditional relative frequency that the children of the household do not have vision insurance? Round to the nearest hundredth.

A   0.78
B   0.28
C   0.38
D   0.22

24   A health care company collected data on the types of insurance used by children in 100 randomly selected households. The results are summarized in a table.

Dental Insurance	Vision Insurance		
		Yes	No	Total
Yes	7	25	32
No	27	41	68
Total	34	66	100

What is the conditional relative frequency that the children of a household do not have dental insurance, given that the children of the household also do not have vision insurance? Round to the nearest hundredth.

     A   0.41
     B   0.60
     C   0.62
     D   0.38