Module Test A

Module 19

Fill in the blanks with the term that best completes each statement.

1. The mean of a set of values is also called the **average** _____.

2. A **circle** _____ graph is often called a pie chart.

3. In a box-and-whiskers plot, the middle 50% of the data is indicated by the **box** _____.

4. The medians of each half of the data in a set are the **quartiles Q_1 and Q_3** _____.

5. If the data in a set is close together, the deviation will be **small** _____.

Determine whether the following statements true or false:

6. It is possible to have no mode for a given data set. **True** _____

7. It is possible to have no median for a given data set. **False** _____

8. It is possible to have two means for a given data set. **False** _____

9. The mean will be affected by an outlier. **True** _____

10. The mean and median of a set will always be the same value. **False** _____

11. Deviation from the mean may be positive or negative. **True** _____

12. The sum of the deviations from the mean is always zero. **True** _____

13. The horizontal axis represents periods of time for a line graph. **True** _____

14. The whiskers of a box-and-whisker plot are always the same length. **False** _____

15. The dependent variable in a scatter plot is graphed on the horizontal axis. **False** _____

Choose the correct response to complete each of the following:

16. The value that occurs most often in a data set is the
    a. mean   **b.** median   **c.** mode   **d.** range

17. The median for a data set containing an even number of values is found by
    a. no median in this case
    b. having two medians—two middle values
    c. removing an outlier and choosing the new middle value
    d. averaging two middle values

18. When creating a stem-and-leaf plot, the part represented by the stem is

    a. the first digit   **b.** the last digit   **c.** all except the   **(d.)** all except the
                                          first digit   last digit

19. The best graph to compare data amounts is a

    a. line graph   **(b.)** bar graph   **c.** circle graph   **d.** scatter plot

20. The best graph to show the relationship between two sets of data is a

    a. line graph   **b.** bar graph   **c.** circle graph   **(d.)** scatter plot

21. A negative slope between points on a line graph indicates

    a. an increase   **(b.)** a decrease   **c.** no change   **d.** a sharp change

22. In a circle graph, the sector with a center angle of 90° represents

    (a.) one-quarter   **b.** half of the   **c.** three-quarters **d.** the entire circle
        of the circle   circle   of the circle

23. The amount of data within the interquartile range is

    a. 25%   **(b.)** 50%   **c.** 75%   **d.** 100%

24. If the relationship between two sets of data is such that the dependent variable is decreasing as the independent variable is increasing, then the correlation

    a. is positive   **(b.)** is negative   **c.** does not exist; **d.** cannot be
                                      no correlation   determined

25. A line of fit can *not* be used to

    a. demonstrate   **b.** describe   **(c.)** compare   **d.** make
        correlations   trends of data   parts to whole   predictions

26. The number of feet required to brake from 60 mi/h to a complete stop is given for large SUV's in the set: 134, 138, 141, 144, 150, 156, 158, 167. Find the

    a. mean   **148.5 feet**   **b.** median   **147 feet**

    c. mode   **none**   **d.** deviations from the mean **−14.5, −10.5,**

                                                          −7.5, −4.5, 1.5, 7.5, 9.5, 18.5

    e. mean absolute deviation **9.25 feet**   **f.** minimum and maximum **134 feet and 167 feet**

    g. Q_1 **139.5 feet**   **h.** Q_3 **157 feet**

    i. range **33 feet**   **j.** interquartile range **17.5 feet**

    k. stem-and-leaf plot   **l.** box-and-whisker plot

Stem	Leaf
13	4 8
14	1 4
15	0 6 8
16	7

15|0 = 150

130 135 140 145 150 155 160 165 170
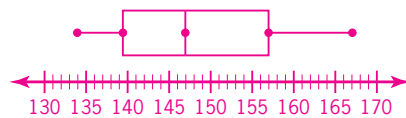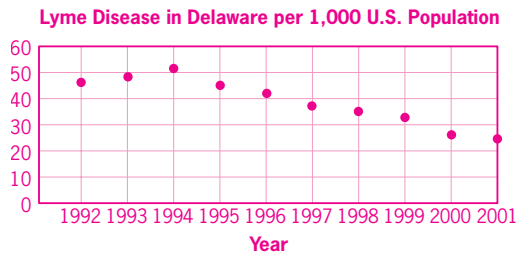
27. The average number of cases of lyme disease in Delaware, per 1,000 people, is given as follows for a 10-year period: 1992 was 47.9; 1993 was 49.1; 1994 was 51.2; 1995 was 46.1; 1996 was 41.6; 1997 was 38.8; 1998 was 36.0; 1999 was 32.1; 2000 was 27.4; and 2001 was 24.7.

a. Create a scatter plot.

Lyme Disease in Delaware per 1,000 U.S. Population

b. What type of correlation does the graph represent? **Negative correlation**

c. Draw a line of fit. List two possible points of the scatter plot through which

it crosses. **(1993, 49.1) and (1999, 32.1)**

**28. The line graph shows the number of wins by the North Columbia Hawks from 1986 to 1997.**

North Columbus Hawks
Wins per Year

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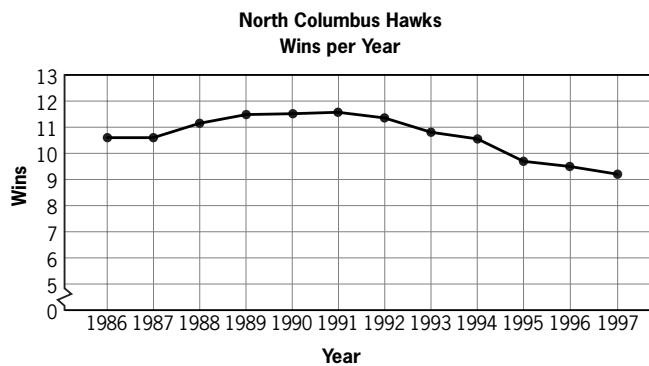
a. What trend is displayed on the graph? **The number of wins rose from**

1986 to 1991 but steadily declined after 1991.

b. In what year did they have the most wins? **1991**

c. During what two consecutive years was the number of wins the same?

1986 and 1987

29. The bar graph shows the occupational areas of the United States Presidents.

Presidential Profession
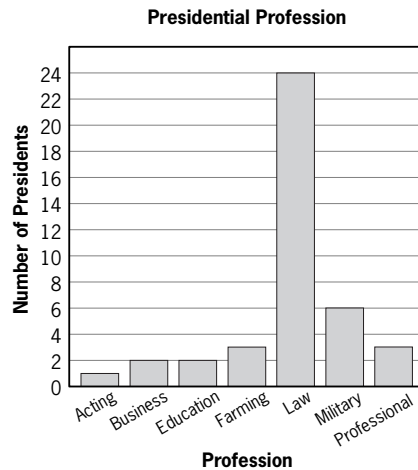
a. In what profession were most of the United States Presidents? **Law**

b. In what profession was the least number of United States Presidents?

Acting

c. What profession(s) was(were) attributed to two United States Presidents?

Business and Education

Answer the following problems with complete sentences:

30. Define "central tendency" and list the three statistical measures studied in this

lesson which measure it. **Central tendency is a statistical measure which**

seeks to provide information about the center of the given set of data

values. Mean, median, and mode are measures of central tendency.

31. Explain the difference between range and interquartile range. **The range is the**

difference between the maximum and minimum values of the entire set

of data; it contains all the data. The interquartile range is the difference

between the third and first quartiles; it contains half of the data.