Name: _____   **Date:** _____

1.   Which is a statistical question?

    A.   How long is a lane in an Olympic-size swimming pool?

    B.   What is the fastest recorded time in the Women's 100 meter butterfly?

    C.   How many laps, on average, do Olympic competitors swim during practice each week?

    D.   How many gold medals were won by U.S. Olympians in Men's Freestyle Swimming?

2.   Read the questions.

    a. Which cowboy hat sizes were sold last month?

    b. Which baseball hat size is sold most often?

    c. Which size of hard hat is bought most often by lumberjacks?

    d. What is Mr. James' hat size?

Which of these are statistical questions?

    A.   a only   B.   b only

    C.   a and c only   D.   a, b and c only

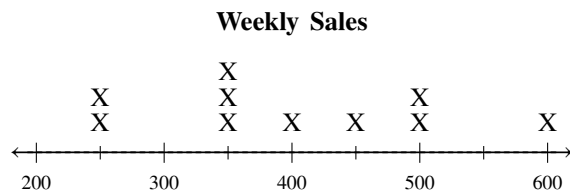3.   The following data are test scores for a class of 20 students:

    77, 54, 71, 81, 54, 87, 73, 67, 65, 73, 90, 56, 75, 83, 66, 73, 63, 62, 55, 81

    a) Complete the table.

Interval	Number (frequency)
91–100	
81–90	
71–80	
61–70	
51–60	

    b) In which interval does the mode lie?

    c) In which interval does the median lie?

4. The Fancy Fork is a small restaurant. The restaurant manager made a line plot of recent weekly sales.

Weekly Sales

```
                X
                X                 X
      X         X                 X
      X         X    X    X    X           X
   ←--+----+----+----+----+----+----+----+--→
     200       300       400       500      600
```

The manager predicts that over the next 5 weeks, the weekly sales will average $400.

Is the prediction reasonable?

A. No, because the mean of recent sales is $350.

B. Yes, because the mean of recent sales is $400.

C. Yes, because the range of recent sales is $250 to $600.

D. No, because the median of recent sales is $375.

5. There are 63,000 swimmers in a national swimming organization.

The average age of a swimmer is 12, but half of all the swimmers are under the age of 10. Give an explanation of how this is possible.

6. The neighbors traveled 300 km to the beach at an average speed of 99 km/h. Traffic on the return trip slowed their speed to an average of 80 km/h. To the nearest whole number, what was the mean speed of the entire trip in kilometers per hour?
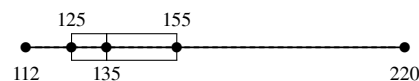
7. The scores on a test were 72, 74, 78, 78, 82 and 84. Which statement about the scores is true?

A. The mean, median, and mode have the same value.

B. The mean, median, and mode have different values.

C. Only the mean and the median have the same value.

D. Only the mode and the median have the same value.

8. A data set consists of the numbers 3, 3, 6, 7 and 16. Which statement is true for this data?

A. mean > median   B. mode = median

C. median < mode   D. median = mean

9. For the box-and-whisker plot shown, why is the median not in the middle of the box?

```
              125        155
      •    •   •      •              •
     112      135                   220
```

10. The local Sweet Potato Association sponsors the Annual Sweet Potato Bake-Off. The association kept track of the number of entries in each contest category.

80	72	68	75	77	82
79	74	74	76	78	70
80	80	73	75	79	

Contstruct a box-and-whisker plot for the data.

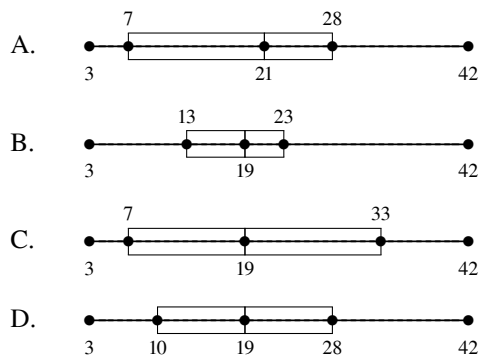11. Jesse kept track of his major expenses for a month and recorded the information in the table.

Jesse's Monthly Expenses

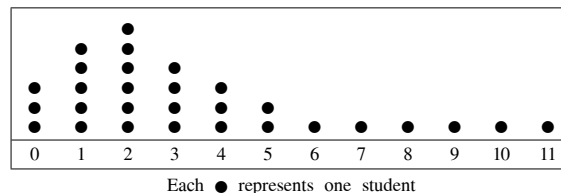| Category	Amount($)
Housing	675
Food	320
Clothing	215
Miscellaneous	80

Use the information in the table to construct a bar graph.

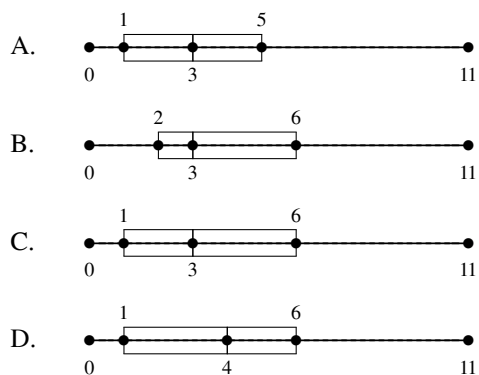12. Which is the correct box-and-whisker plot for the following data:
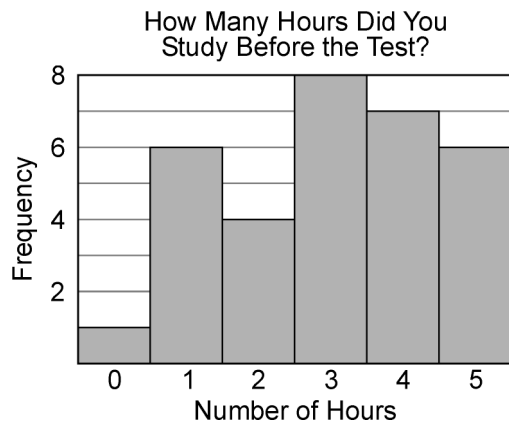
3, 7, 13, 19, 23, 33, 42

A.

B.

C.

D.

13.

Each ● represents one student

What is the boxplot that corresponds to the data?

A.

B.

C.

D.

14. The histogram shows responses from a survey of 32 students.

How Many Hours Did You Study Before the Test?

How many students studied less than 2 hours?

What percent of students studied for 3 hours?

What was the average number of hours studied by all students who were surveyed? Explain.

15. One number is dropped from a set and replaced with a different number. Which of the statistics listed below *may* change as a result?

A. range   B. median

C. mean   D. any of the above

16. Consider the following sets of data:

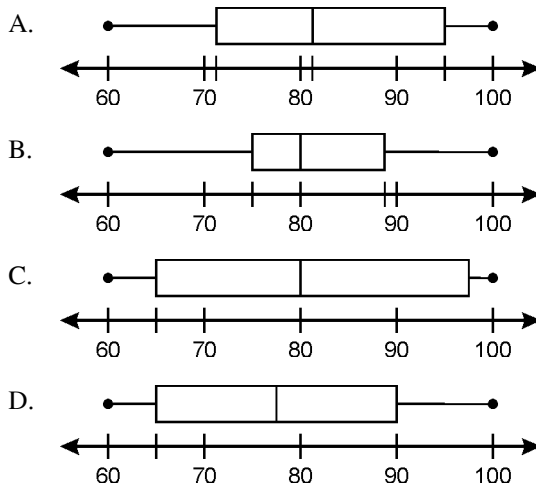$$A = \{8, 10, 12, 12, 12, 18, 8\}$$

$$B = \{15, 25, 35\}$$

$$C = \{140, 148, 149, 151\}$$

$$D = \{45, 49, 54, 60\}$$

Which set has a mode?

A. set A B. set B C. set C D. set D

17. Four box-and-whisker plots are shown in the figure below. Which graph is from the data set with the largest interquartile range?

A.

B.

C.

D.

18. Given the set of numbers $\{34, 46, x, 54, 58, 84\}$. If the median is 52, what is the value of x?

19. Mr. Gest is a hotel concierge.

    Over the past four days, he received tips that totaled $121, $109, $97 and $97.

    a) State the average (mean), median and mode of the tips.

    b) Mr. Gest claims that he makes an average of $100 per day in tips. What is the dollar amount of tips he must receive on the following day to validate his claim?

20. Juanita showed the test scores to her parents and said, "I get scores in the 70s most of the time." What measure of central tendency did she use to describe her scores?

    A. mean

John's Scores				
70	70	18	23	70

    B. mode

    C. median

    D. none of these

21. LaVon wants to report her math progress to her mom. The table shows LaVon's last five test scores. Which measure of central tendency should LaVon use to make her progress look the best?

    A. median

LaVon's Scores				
41	73	84	86	91

    B. mean

    C. mode

    D. none of these

22. Pa Nhia found that the mean life expectancy of a 12-volt battery is 120 hours for brand ABC and 125 hours for brand XYZ. The median life expectancy for brand ABC is 118 hours and for brand XYZ is 111 hours. If Pa Nhia values reliability above all else, which brand of battery should she choose, and why?

Unit 7 Review   5/3/2018

1.
Answer: C
Objective: 6.SP.1

2.
Answer: D
Objective: 6.SP.1

3.
Answer: 1 4 6 5 4; 71–80; 71–80
Objective: 6.SP.2

4.
Answer: B
Objective: 6.SP.2

5.
Answer: [answers vary]
Objective: 6.SP.3

6.
Answer: 90
Objective: 6.SP.3

7.
Answer: A
Objective: 6.SP.3

8.
Answer: A
Objective: 6.SP.3

9.
Answer: numbers were closer together between 125–135
Objective: 6.SP.4

10.
Answer: [box-and-whisker plot that shows Min = 68, LQ = 73.5, Median = 76, UQ = 79.5, Max = 82]
Objective: 6.SP.4

11.
Answer: [graph]
Objective: 6.SP.4

12.
Answer: D
Objective: 6.SP.4

13.
Answer: A
Objective: 6.SP.4

14.
Answer: 7; 25%; 3 hrs = 96 ÷ 32
Objective: 6.SP.5A

15.
Answer: D
Objective: 6.SP.5B

16.
Answer: A
Objective: 6.SP.5B

17.
Answer: C
Objective: 6.SP.5B

18.
Answer: 50
Objective: 6.SP.5C

19.
Answer: $106, $103, $97; $76
Objective: 6.SP.5C

20.
Answer: B
Objective: 6.SP.5D

21.
Answer: A
Objective: 6.SP.5D

22.
Answer: brand ABC
Objective: 6.SP.5D