

Unit 4 ~ Review

Use the table below to answer questions #1 and #2.

Susan owns a local bakery. She took a random survey of customers to find out their favorite breakfast food and recorded the results in the table below.

1. What is the size of the sample?

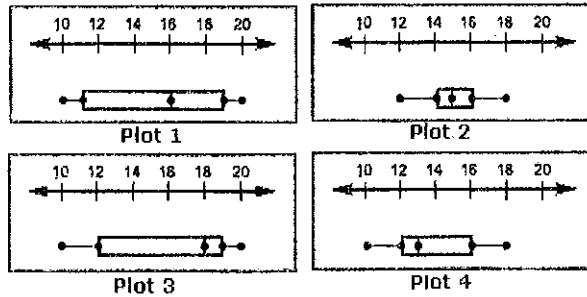
2. If Susan expects to sell 400 items next week, which is the best prediction of how many muffins she should make for her bakery?

- a. 12 b. 28 c. 78 d. 80

Type of Food	Customers
Bagel	20
Muffin	18
Cinnamon Roll	24
Donut	28

3. The table below shows the number of baseball cards collected by 5 students.

Students	Number of coins
Jon	12
Wes	18
Chris	16
Shawn	15
Jason	14

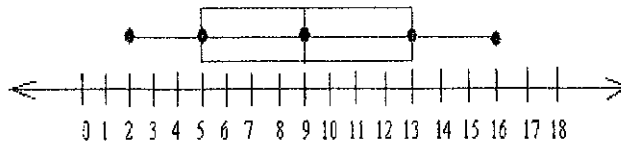


Which of the following is the equivalent box-and-whisker plot for the table? Then find the range.

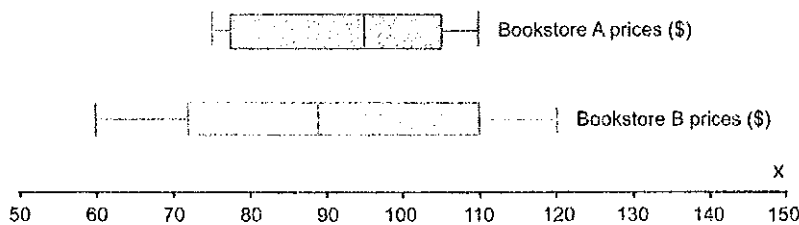
- a. Plot 1, Range 10 b. Plot 3, Range 10 c. Plot 4, Range 8 d. Plot 2, Range 6

4. The box-and-whisker plot shows the number of cross country events won this season by a member of the NHMS team. Find the median number of wins.

- a. 13 events
b. 5 events
c. 9 events
d. 16 events



Use the following double box-and-whisker plot to answer questions 5 and 6.



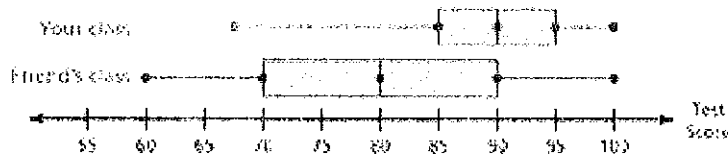
5. The box-and-whisker plot shows the prices of books at two local bookstores. Which of the following statements are true?

- a. The median prices for Bookstore B is greater than Bookstore A.
b. The prices are same for both bookstores.
c. Upper quartile for Bookstore A is less than the median of Bookstore B.
d. The median book prices for Bookstore A is greater than Bookstore B.

6. Compare the inter-quartile ranges (IQR) of the two box and whisker plots. Choose the statement that best describes the relationship.

- a. The IQRs are the same for both Bookstore A and Bookstore B.
b. The IQR for Bookstore A is greater than the IQR for Bookstore B.
c. The IQR for Bookstore B is greater than the IQR for Bookstore A.
d. The IQR for both bookstores cannot be determined.

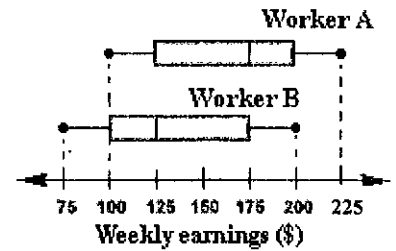
7. The box-and-whisker plot shows the test scores for your class and your friend's class. Which of the following conclusions is true for the data?



- a. Minimum scores for your class are equal to the minimum scores for your friend's class.
- b. Median scores for your class are equal to the upper quartile in your friend's class.
- c. Minimum scores of your friend's class are fairly close to the maximum score in your class.
- d. 75% of your class test scores are greater than the lowest score in your friend's class.

8. The box-and-whisker plot shows the results of two different workers' weekly earnings. Which of the following statements is true for the data?

- a. Upper quartile of Worker B is equal to the median of Worker A.
- b. Median of Worker B is greater than lower quartile of Worker A.
- c. Range of Worker A is less than the range of Worker B.
- d. Median of the data is same for both the workers.



Determine whether each sample is a random sample or a biased sample. Explain your reasoning.

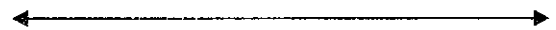
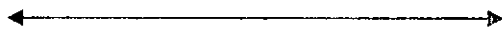
- 9. Landon wants to know the favorite sports of students at his school. He surveyed 20 people at a football game.
- 10. Elizabeth wants to know the favorite mall restaurant of people at the Mall of Georgia. She surveys the first 100 people who enter the mall in the morning.
- 11. Mark wants to know what students would like to see added to the menu at his school. They are given a list of four possible choices. He asks every tenth person that enters the building one morning.

Bill and Jamie were having a discussion about who had been more consistent on their math quizzes. Their grades are found below.

12. Make a line plot/dot plot for samples A and B.

Sample A: Bill: 85, 90, 80, 70, 95

Sample B: Jamie: 70, 72, 93, 100, 95



A. Find the mean and mean absolute deviation (MAD) for Bill. Show all your work.

B. Find the mean and mean absolute deviation (MAD) for Jamie. Show all your work.

Mean = _____

MAD = _____

Mean = _____

MAD = _____

C. Based on the Means and the MADs, compare and contrast Bill and Jamie's quiz grades. (Make sure you address the similarities and differences of the grades.)

13. The table below shows the points John scored in the past few basketball games.

Game 1	Game 2	Game 3	Game 4	Game 5	Game 6
24	30	13	25	22	29

A. Find the mean, median, mode, and range of the following set of data. Show your work.

Mean _____

Median _____

Mode _____

Range _____

B. Which measure of central tendency do you think best describes John's score? _____

Explain your reasoning.

C. Is there an outlier present in this set of data? _____ If yes, what is the outlier? _____
If so, how does it affect each of the measures of central tendency?

Mean: _____

Median: _____

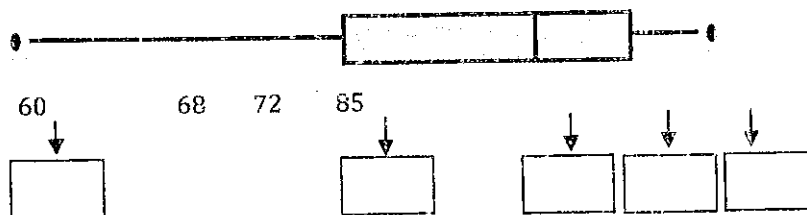
Mode: _____

14. Use the box-and-whisker plot below which shows the high temperatures in October.

A. Label the following parts of the box-and-whisker plot below:

Upper Quartile (UQ), Lower Extreme (LE), Median (M), Lower Quartile (LQ), Upper Extreme (UE).

High Temperatures in October



B. Using percentages, describe the distribution of the data in the box-and-whisker plot above. (Use at least 3 statements that account for 100% of the data)
