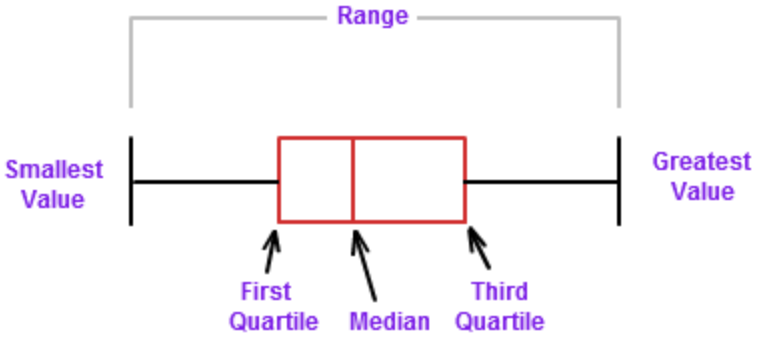
Name: _____ Period: _____

U11 Day 3 Notes: Box-and-Whisker Plots

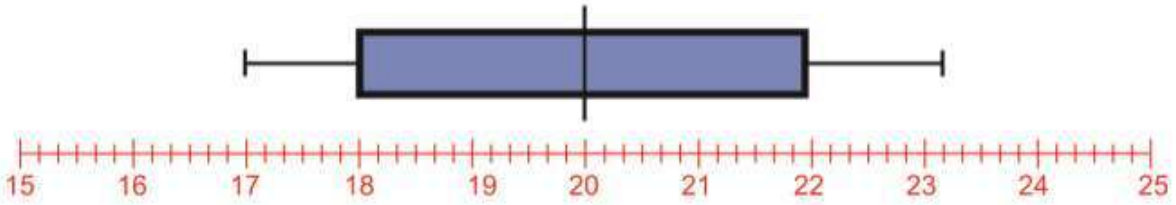
S-ID.1: I can choose appropriate graphical representation for collected data. I can interpret data shown in various data representations (dot plots, histograms, and box plots).

Box and Whisker Plots:

- Shows the quartiles of the data.
- Box – tells us the 1st quartile, second quartile (median) and third quartile
- Whiskers – tells us the minimum value and maximum value in the data set.
- Each segment is 25% of the data



Example 1:



a. What is the median?

b. What is the first quartile?

c. What is the third quartile?

d. What is the minimum value?

e. What is the maximum value?

f. What is the range of the data?

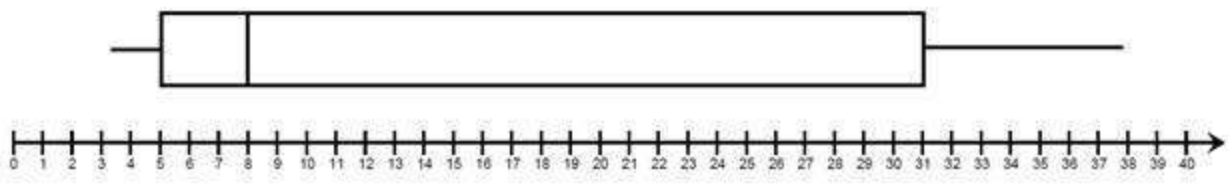
g. The above five values are called the _____.

h. What percentage of data is below upper quartile?

i. What percentage of data is above the median?

j. What percentage of data is located between the lower quartile and the median?

Example 2:



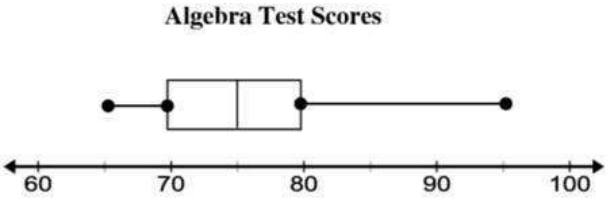
a. What is the median? **b.** What is the first quartile? **c.** What is the third quartile?

d. What is the minimum value? **e.** What is the maximum value? **f.** What is the range of the data?

g. What percentage of data is above upper quartile?

h. What percentage of data is located between the minimum and the median?

3. Emilio created a box-and-whisker plot to display the scores he got on his Algebra tests.



Part A: Can the range be determined from the box-and-whisker plots?

◯YES ◯NO

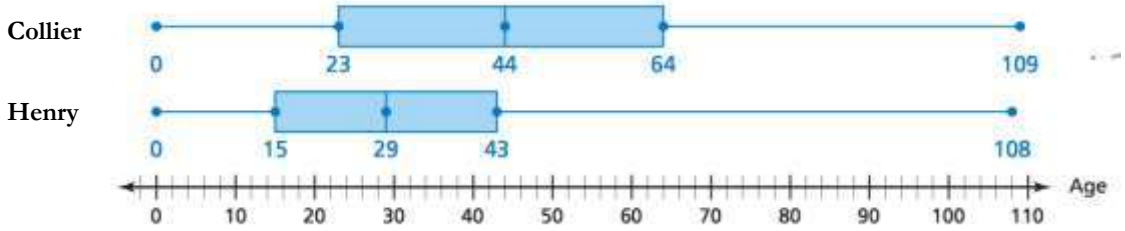
If yes, find the range. If no, explain why it's not possible to determine the range from a box-and-whisker plot.

Part B: Can the mode of the scores be determined from the box-and-whisker plot? ◯YES ◯NO

If yes, find the mode. If no, explain why it's not possible to determine the mode from a box-and-whisker plot.

Part C: Based off of Emilio's test scores, should he retake his tests? Explain.

4. The double box-and-whisker plot shows the age distributions from two counties in Florida.



Part A: Which data set has a greater median? ◯ **Collier** ◯ **Henry**

Part B: About how much greater is the median of the data set?

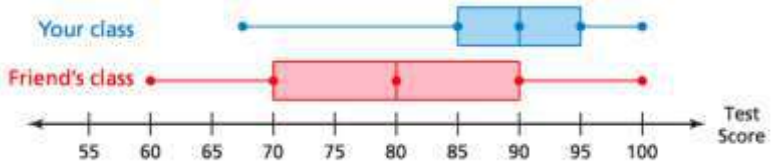
Ⓐ greater median by about 1 year.

Ⓑ greater median by about 15 years.

Ⓒ greater median by about 14 years.

Ⓓ greater median by about 8 years.

5. Your friend is in Mr. Fisher's algebra class. There was a class competition on who had the higher test scores on the last test.



Part A: Which data set has a greater median? ◯ **Your class** ◯ **Friend's class**

Part B: About how much greater is the median of the data set?

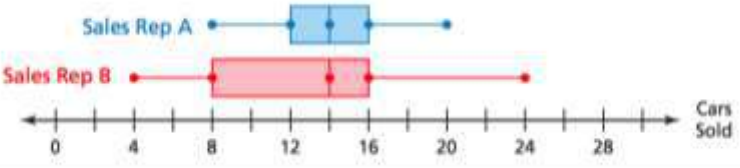
Ⓐ greater median by about 11 percent.

Ⓑ greater median by about 5 percent.

Ⓒ greater median by about 15 percent.

Ⓓ greater median by about 10 percent.

6. The double box-and-whisker plot shows the monthly car sales for a year for two sale representatives. What is the range for each representative?



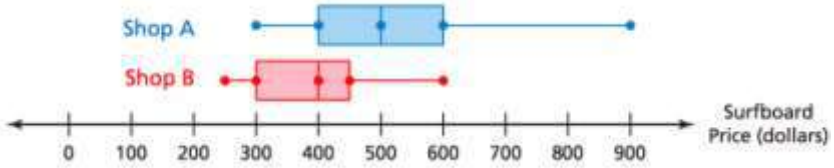
Ⓐ Sales Rep A = 12; Sales Rep B = 12

Ⓑ Sales Rep A = 8; Sales Rep B = 20

Ⓒ Sales Rep A = 12; Sales Rep B = 20

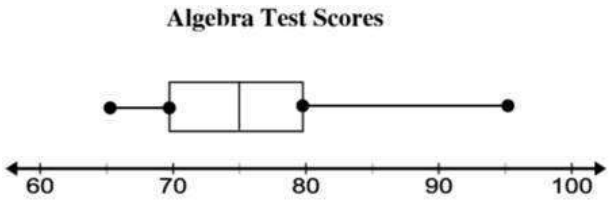
Ⓓ Sales Rep A = 8; Sales Rep B = 12

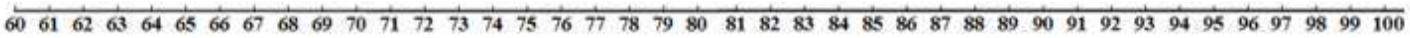
7. The double box-and-whisker plot shows the surfboard prices of Shop A and Shop B. What is the range for each shop?



Ⓐ Shop A = 600; Shop B = 350
Ⓑ Shop A = 600; Shop B = 300
Ⓒ Shop A = 350; Shop B = 600
Ⓓ Shop A = 300; Shop B = 600

8. Emilio had 12 algebra test this school year. Create a **Dot Plot** given the following **Box and Whisker Plot.**





9. The following Box and Whisker Plot shows the average monthly temperatures for two cities. There were **16** recordings in the past month. Create a **Dot Plot** given the following **Box and Whisker Plot.**