Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Statistics: Mean Absolute Deviation & Box and Whisker Plots

1. Consider the following data sets:

Set 1: 0, 10, 25, 40, 40

Set 2: 10, 20, 25, 30, 50, 50

Calculate the median for each set.

Median Set 1: Median Set 2

2. The ages of Kate and her cousins are shown in the table.

Name	Age	Deviation from Mean	Absolute Deviation from Mean
Kate	22		
John	16		
Chris	19		
Heather	14		
Lily	9		

a. Calculate the mean age and then complete the table.

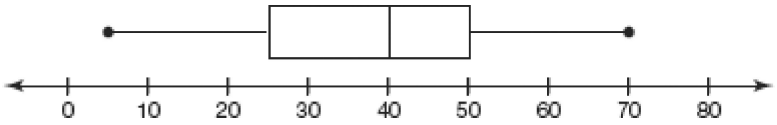
b. Calculate the mean absolute deviation for the data set.

3. Coach Evans recorded the height, in inches, of each player on his two teams. The results are shown.

Team 1	Team 2
57, 64, 60, 60, 52, 59, 61, 63, 59	61, 57, 63, 62, 60, 64, 60, 62, 63

Calculate the IQRs (interquartile ranges) of the heights for each team.

4. Use the box-and-whisker plot shown to answer each question.



a. Identify the five-number summary (the five important points).

b. What percent of the data in the box-and-whisker plot is below 40?

c. What percent of data in the box-and-whisker plot is above 25?

d. What percent of data in the box-and-whisker plot is above 50?

Determine whether each question is a statistical question. If it is not, explain why.

5. Are sixth grade girls taller than sixth grade boys?

6. What is the name of your school?

7. How old is your father?

8. What is the average age of all the teachers in your school?

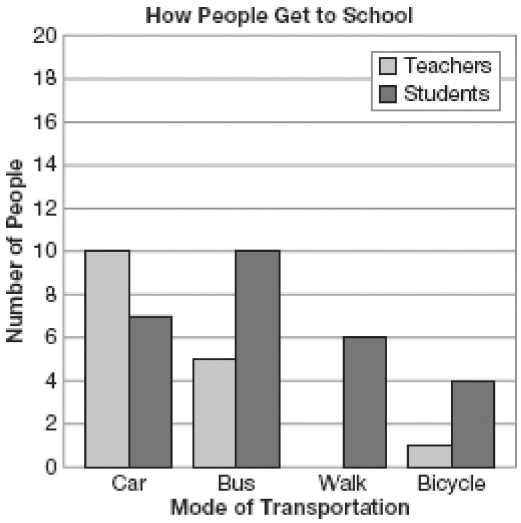
9. The bar graph shows the maximum speeds of several kinds of animals over approximately quarter-mile distances.

a. What interval is used to record the speed of the animals on the graph?

b. Which animal is the fastest? Which is the slowest?

c. What is the maximum speed of an elk?

10. Brenda surveyed teachers and students about how they get to school. Her double bar graph shows the results of that survey.



a. How many students walk to school? How many teachers walk to school?

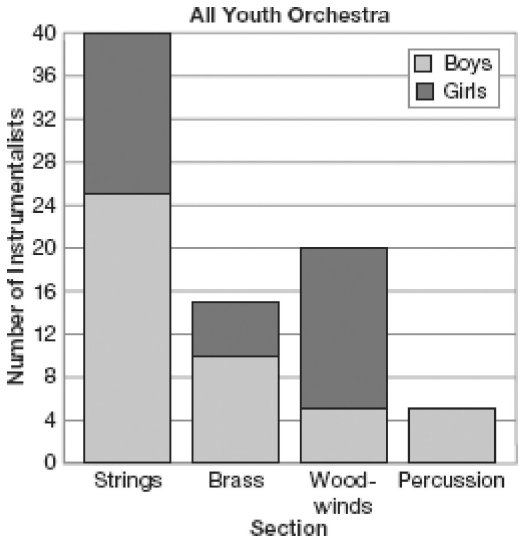
b. What is the most popular method for students to get to school?

c. What is the most popular method for teachers to get to school?

d. What is the total number of people surveyed who take the bus to school?

e. How many more students than teachers bicycle to school?

11. The stacked bar graph shows the number of students in the All Youth Orchestra.



a. How many girls play woodwind instruments?

b. How many students play string instruments?

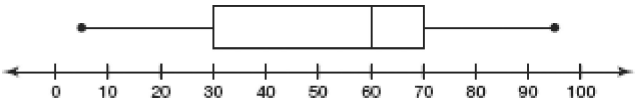
c. Compare the number of students who play string instruments to the number of students who play brass instruments.

12. Brad wants to estimate the number of points each player earns while playing a math computer game. He decided to take a random sample of 15 anonymous players. The results are shown.

2 points	7 points	5 points	3 points
6 points	10 points	0 points	21 points
11 points	9 points	4 points	8 points
12 points	6 points	3 points	

Either calculate the MAD or create a box and Whisker plot to represent the spread of this data.

____ **13.** Steph made the box-and-whisker plot shown.



What is the IQR for the data?

a. 40
b. 60
c. 70
d. 90

____ **14.** Keisha has a part-job. Her earnings vary from week to week. The amounts she earned each of the past 8 weeks are shown.
$88, $104, $96, $112, $132, $92, $100, $116

What were her median weekly earnings of this period?

a. $102
b. $105
c. $100
d. $104

____ **15.** Felicity recorded the number of laps she swam each month for 7 months. Her data are shown.
112, 134, 150, 98, 120, 56, 116

Which statement is true about the IQR of Felicity's lap data?

a. There is an 18-lap range of the middle 50% of the data.
b. There is a 36-lap range for the middle 50% of the data.
c. There is a 98-lap range for the middle 50% of the data.
d. There is a 134-lap range for the middle 50% of the data.

____ **16.** Three factories reported their productivity numbers over five months. Each factory had the same mean. If the MAD values were different which factory would be preferred for its consistency?

a. The factory with the highest MAD score
b. The facotry with the highest score
c. The factory with the lowest MAD score
d. The factory with the 2nd highest MAD score