

Name: _____

Date: _____

UNIT 4

LESSON 2

Do Now: In the table, the data indicate the heights, in inches, of 17 basketball players.
(Hint: Using your “STAT” key on your calculator)

Height (inches)	Frequency (number)
77	2
76	0
75	5
74	3
73	4
72	2
71	1

- a. What is the mean?

- b. What is the median?

- c. What is the Mode?

AIM: Finding Quartiles & Constructing a “Box Plot”

1. Find the median of the following data:

53, 60, 61, 63, 64, 65, 65, 65, 65, 66, 66, 67, 67, 68, 69, 70, 70, 71, 71, 73

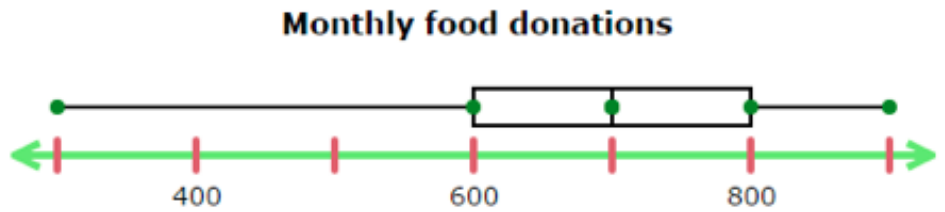
We know that the _____ of a set of data separates the data into two equal parts. The numbers that separate the set into four equal parts are called _____.

- The _____ quartile (lower) is the median of the lower part of the data.
- The _____ quartile is another name for the median of the entire set of data.
- The _____ quartile (upper) is the median of the upper part of the data.

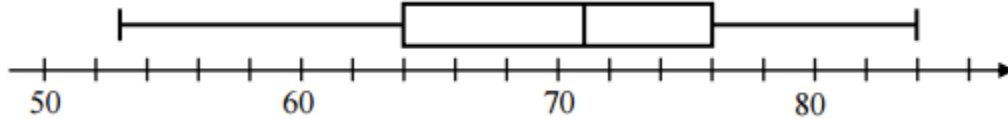
Definition: _____ is a number that tells us what percent of the total number of data values lies at or below a given measure.

2. The director of Long Island's homeless shelters is tracking the number of food donations received at each shelter every month. This box plot shows the results.

- a) How many donations is 25%?
- b) How many donations is 50%?
- c) How many donations is 75%?



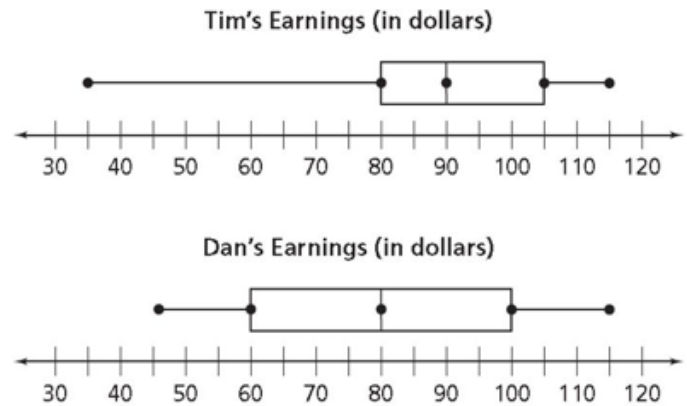
3. Twenty of Mr. Kramer's physics students recently took a quiz. The results of this quiz are shown in the following box-and-whiskers diagram. Assume that all scores are whole numbers.



- (a) What was the median score on Kramer's math quiz?
- (b) What was the range of the scores on Mr. Kramer's physics quiz?
- (c) What score was greater than or equal to 75% of all other scores on this quiz?

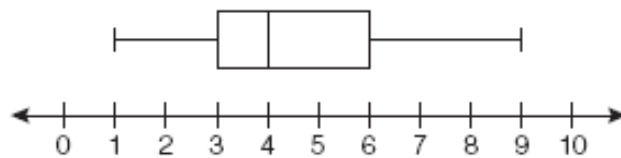
4. The accompanying box plots can be used to compare the annual incomes of two lawyers.

- a) Who earned the lowest amount?
- b) What is 25% of Tim's earnings?
- c) What Tim's median earnings?
- d) What Dan's median earnings?
- e) What is 75% of Tim's earnings?



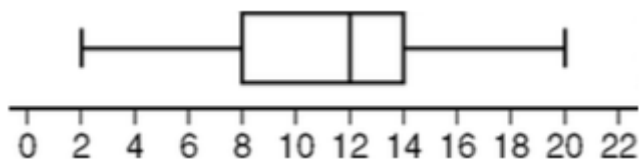
5. A movie theater recorded the number of tickets sold daily for a popular movie during the month of June. The box-and-whisker plot shown below represents the data for the number of tickets sold, in hundreds. Which conclusion can be made using this plot?

- (1) The second quartile is 600.
- (2) The mean of the attendance is 400.
- (3) The range of the attendance is 300 to 600.
- (4) Twenty-five percent of the attendance is between 300 and 400.



PRACTICE PROBLEMS

6. The number of text messages 10 different students sent in 1 day is shown in the box-and-whisker plot below.



- What is the minimum number of text messages sent according to the plot shown?
 - What number is at the 50th percentile according to the plot shown?
 - According to the plot shown, between what two numbers does half of the data lie?
 - According to the plot shown, how many text messages are at the 75th percentile (upper quartile)?
7. According to the above box and whisker plot, find the following information:

a) Median

b) 1st quartile

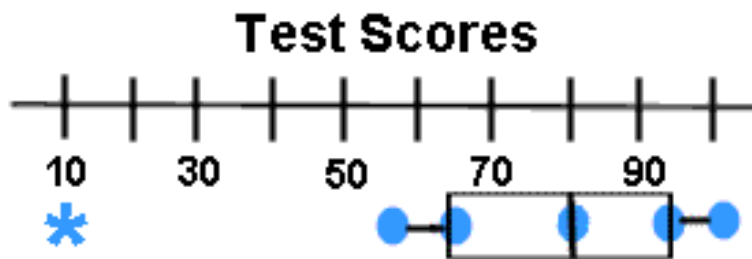
c) 3rd quartile

d) Maximum value

e) What percent of data is between 65 and 95?

f) What percent of data is greater than 95?

g) What percent of data is less than 95?



8. The accompanying box-and-whisker plots can be used to compare the annual incomes of three professions. Based on the box-and-whisker plots, which statement is true?

- The median income for nuclear engineers is greater than the income of all musicians.
- The median income for police officers and musicians is the same.
- All nuclear engineers earn more than all police officers.
- A musician will eventually earn more than a police officer.

