Math 7 Chapter 8 & 9 Statistics Test Review #2

1. The ages of sea turtles are 108, 100, 113, 75, 108, 171, 102, 109, 82, 83, 53, 87, 51, 96, 65. Round to the nearest tenth, if necessary.
   A. Find the measures of central tendency.

   B. Determine which measure of central tendency best represents the ages of sea turtles.

   C. Determine the extreme value.

   D. Find the measures of central tendency without the extreme value.

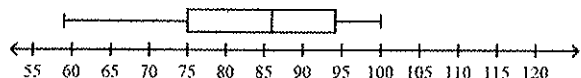   E. Determine which measure of central tendency is most affected by the extreme value.

2. Find the measures of variation, including any outliers, for the following set of data: 87, 105, 115, 59, 116, 196, 93, 112, 69, 69, 108, 98, 164, 63, 73.

3. The list shows prices of books sold in a book store in Birmingham and Tuscaloosa. Compare and contrast the measures of variation for the prices of both cities. Write 2 complete sentences.

Birmingham - Prices			Tuscaloosa - Prices		
$13	$19	$2	$1	$10	$20
$5	$12	$7	$6	$6	$20
$16	$18	$14	$12	$9	$4
$16	$7	$17	$3	$20	$13
$7	$13	$12	$15	$1	$8

4. Draw a box-and-whisker plot for the following set of data: 112, 93, 60, 118, 71, 169, 78, 69, 148, 104, 73, 111, 119.

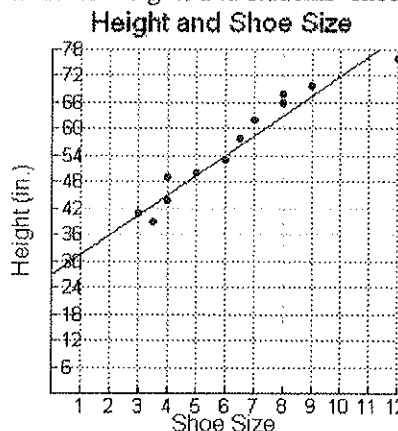5. The test scores for a math test are displayed in the following box-and-whisker plot.

   A. What percent of the students scored at most 94 on the test?

   B. What percent of the students had scores between 58 and 86?

6. The stem-and-leaf plot represents the battery life, in shots, for a sample of 15 digital cameras.

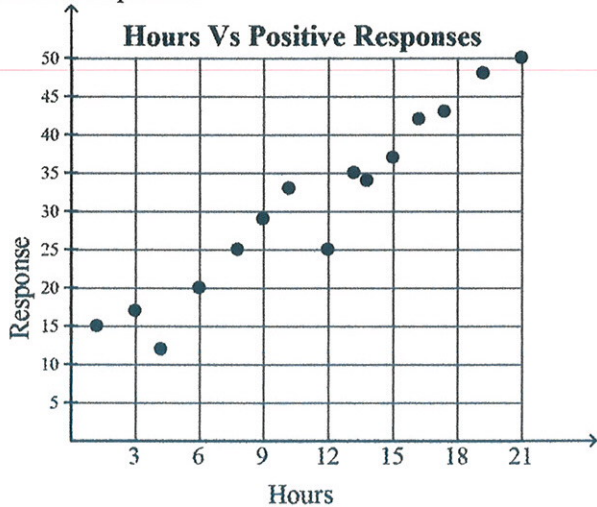| Stem	Leaf				
0	30	40			
1	30	70			
2	40	50	60	80	
3	10	20	40	60	80
4	50	70	90		

0/40=40 shots

   A. What is the range of the shots?

   B. Find the median and mode of the data.

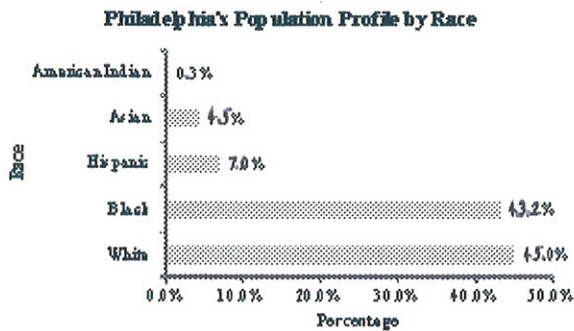7. The graph below shows the relationship between students' heights and students' shoe sizes.

   A. How tall is a student that wears a size 5 shoe?

   B. If a student is 36 inches tall, about what size shoe should will that student wear?

8. The chart below shows the percent of consumers who prefer each brand of paper towel. Predict how many of 300 consumers prefer Thirsty towels?

Paper Towel	Percent
Thirsty	49%
Clean	24%
Strong Ones	15%
PowerWash	12%

9. A behavioral study measured the number of positive responses received for a certain product during the 21 hours that it was sold. Fifteen pairs of data are represented in the scatter plot. The professor later studied the diagram to analyze if there was any correlation between the number of positive responses and time. Identify the relationship between the hours and the responses.
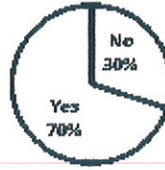
Hours Vs Positive Responses

10. In a survey, 55% of respondents said they own a DVD player. Based on this information, predict how many of the 9,985 residents of Sadieville own a DVD player.

11. Use the percent proportion and the graph below to predict how many of Philadelphia's 1,517,550 residents are Asian. Round to the nearest whole number.

Philadelphia's Population Profile by Race

12. A survey asked 650 seventh graders if they owned a pet. Use the graph below to predict how many more students own a pet than do not.
   Seventh Graders With a Pet

13. Determine if the sample method is valid and justify your answer. To determine what students think about new student council proposals, every 10th student in the cafeteria was selected.

14. Determine if the sample method is valid and justify your answer. To determine whether 7th grade students like basketball, Andrea surveyed the girls and boys basketball teams.

15. Determine if the sample method is valid and justify your answer. During production, a manufacturer of clock radios pulls 5 radios every hour from the assembly line to check for overall quality.

16. Determine if the sample method is valid and justify your answer. To determine the most popular chocolate bar at a grocery store, cashiers gave customers a survey and requested them to respond.

17. Determine if the sample method is valid. If so, solve the problem. A fruit vendor sells 4 types of fruits everyday: raspberries, apples, strawberries, and cherries. The vendor surveyed 30 customers at random. The types of fruits they preferred are indicated in the following table. If 20 kg of fruits are purchased, how many kilograms are strawberries?

Type	Votes
Raspberry	7
Apple	2
Strawberry	12
Cherry	9

18. Below is a double box-and-whisker plot showing the data of social studies test scores for two classes. Compare the centers and variations of the two populations. Write an inference you can draw about the two populations.
   Social Studies Classes Test Scores

Mr. Henry's Class Test Scores
Ms. Murray's Class Test Scores