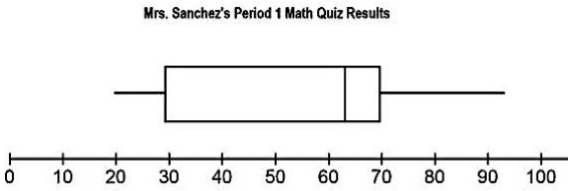
Unit 9R Statistics Review Name _____Per: _____

1. **Given the data set {65, 56, 63, 76, 75, 65, 88, 67, 75, 67, 87, 66, 83, 56, 82, 67, 87} Find:**
   a. Mode: _____ c. Range_____ d. Standard Deviation σx:____
   b. Mean:_____
   e. **Five Number Summary** Min: _____ Q1: _____ Median: _____ Q3: _____ Max: _____
   f. IQR: _____
   g. **Mathematically prove if there is an outlier. (IQR*1.5)**

2. **From the data above, make the following graphically representations:**
   a. Histogram (intervals of 10) b. Dot Plot c. Box Plot (Box and Whisker)

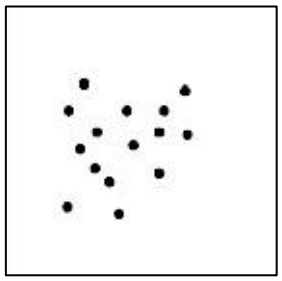
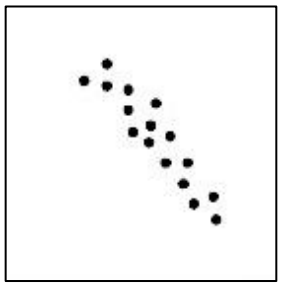
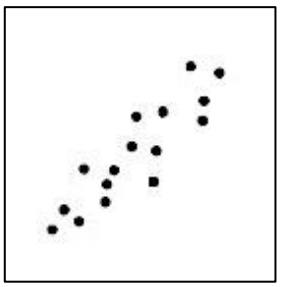
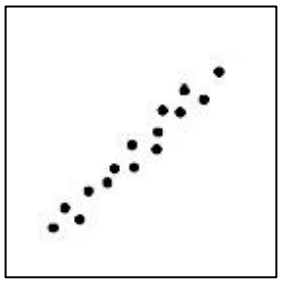
3. **List the advantages** of each kind of plot below
   a. Box Plot _____
   b. Scatter Plot _____
   c. Dot Plot _____
   d. Histogram _____

4. **Based on the box plot to the right.**
   a. How many students scored 100% on the quiz? _____
   b. What was the lowest score on the quiz? _____
   c. What was the median score? _____
   d. Where are the scores the most spread out? _____
   e. 25% of the students scored above what percentage? _____
   f. What is the IQR of the box plot? _____



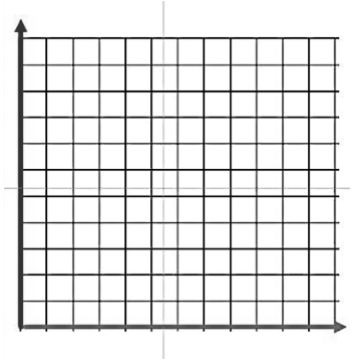
5. **For the data, find the Mean, Median, Standard Deviation, Interquartile Range and show your work to find if there are any outliers.** $\{6, 22, 4, 15, 14, 8, 8\}$
   a. Mean: _____ b. Mode:_____ c. Median:_____
   d. Standard Deviation (σx): e. IQR:
   f. **SHOW** if there are any Outliers

6. By looking at the scatter plots below**, describe the correlation as** Positive OR Negative and Strong, Moderate, Weak or NONE.

a.	**b.**	**c.**	**d.**
			
Describe:	Describe:	Describe:	Describe:

7. Make a scatter plot from the table.

x	y
1	9
3	8
4	6
5	5.5
7	6
8	3
10	2



   a. Draw a line of best fit
   b. Using technology, find the line of regression.
      _____
   c. Find the r-value (Correlation Coefficient). _____
   d. Describe (using words) the correlation of how closely the points fit the line. _____

8. **Using the table:**

x	1	1	3	4	7	8	10
y	5	8	2	6	5	2	1

   a. Find the line of regression_____
   b. Find the r-value (Correlation Coefficient). _____
   c. What does the correlation coefficient tell you about the scatterplot? _____

9. **Following is a table with data for the cooling of hot chocolate.**

Time (min)	*Temp (°F)*
0	179.5
5	168.7
8	158.1
11	149.2
15	141.7
18	134.6
22	125.4
25	123.5
30	116.3
34	113.2
38	109.1
42	105.7
45	102.2
50	100.5

   a. Find the line of regression. _____
   b. Find the correlation coefficient. _____
   c. Describe the relationship of the data (based on the r-value).
      _____
   d. Estimate the temperature of the hot chocolate after 1 hour._____
   e. How long should you wait (after making the drink) before drinking it to ensure that the hot chocolate is not hotter than 155º? _____
   f. Find the Mean temperature of the hot chocolate. _____ Standard deviation_____
   g. Find the five-number summary of the temp of the hot chocolate.
      Min: _____ Q1:_____ Median:_____ Q3:_____ Max:_____