

# 12H R Statistics Review

Name \_\_\_\_\_ Per: \_\_\_\_\_

1. Given the data set {65, 56, 63, 76, 45, 76, 77, 65, 74, 75, 88} Find the:
- a. Min
  - b. Max
  - c. Q1
  - d. Median
  - e. Q3
  - f. IQR

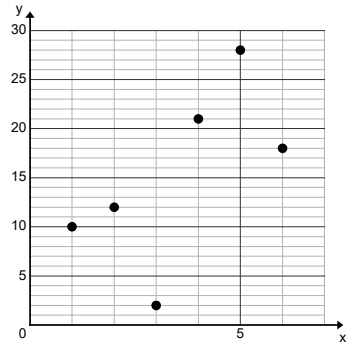
2. From your data above, make a
- a. Box Plot
  - b. Histogram
  - c. Dot Plot

3. Mathematically calculate the check for any **outliers** in the data set. SYW

4. What is the **Mean**? \_\_\_\_\_ What is the **Mode**? \_\_\_\_\_

5. Without a calculator, draw the line that you think best represents the data on the grid to the right.

- a. Find the **line of regression** using your calculator \_\_\_\_\_
- b. Record the **correlation coefficient** \_\_\_\_\_
- c. **Describe the correlation of your points**



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

- a. Find the line of regression. \_\_\_\_\_
- b. Find the correlation coefficient. \_\_\_\_\_
- c. Estimate the temperature of the hot chocolate after one hour. \_\_\_\_\_
- d. How long should you wait (after making the hot chocolate) before drinking it to ensure that the hot chocolate is not hotter than 155°? \_\_\_\_\_
- e. Describe the relationship of the data (based on the r-value). \_\_\_\_\_
- f. Find the Mean temperature of the hot chocolate. \_\_\_\_\_
- g. Find the standard deviation of the mean. \_\_\_\_\_

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

7. For the data set below, sort from least to greatest, find the Mean, Median, Variance, Standard Deviation, Interquartile Range and find if there are any outliers.

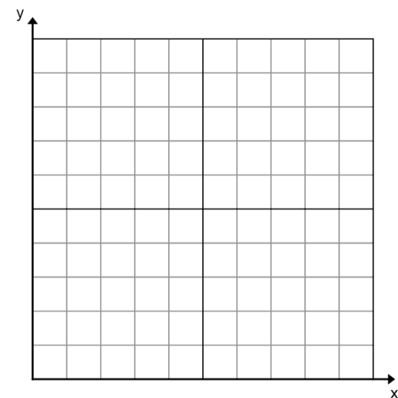
{16, 12, 14, 12, 14, 18, 22, 23, 28, 15, }

- a. Mean:
- b. Median:
- c. Standard Deviation ( $\sigma$ ):
- d. Outliers? SYW.

8. Plot the points from the following table. Make sure you scale the grid.

X	1	2	3	4	5	6
Y	10	13	7	22	28	19

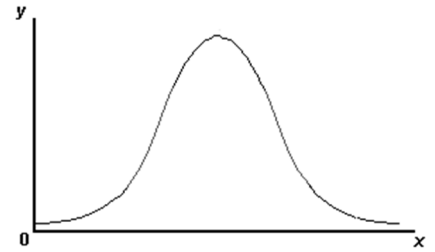
- a. Enter the points in your calculator. Write the equation for line of regression \_\_\_\_\_ . Graph it.
- b. What is the correlation coefficient: \_\_\_\_\_
- c. Draw a line from each data point to the line of regression.



9. If the correlation coefficient for a data set is equal to 1, what will the scatter plot look like? \_\_\_\_\_

10. A pretzel company received complaints about the number of pretzels in their bags. They determined that their pretzel packager fills the bag with a mean of 1 lb of pretzels and a standard deviation of .025 lbs. The researchers determined that bags containing more than two standard deviations above the mean result in broken pretzels. A bag that contains less than .975 lbs. of pretzels seems too empty.

- Graph the information to the right on the graph given.
- Color the complaint section in red.
- What weights for the bags receive complaints? \_\_\_\_\_
- What percentage of bags would receive complaints? \_\_\_\_\_
- If a bag weighed 1.04 lbs., would the customer likely complain? \_\_\_\_ Why or why not?
- If a bag weighed .975 lbs., would the customer likely complain? \_\_\_\_ Why or why not?
- If the company sold 220,000 bags of pretzels each month, how many bags would likely result in customer complaints? SYW.



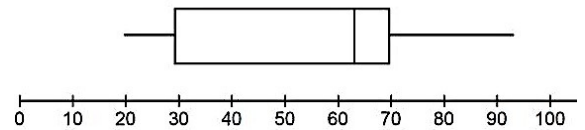
11. Based on the box plot to the right.

- Describe the students' performance on the test.

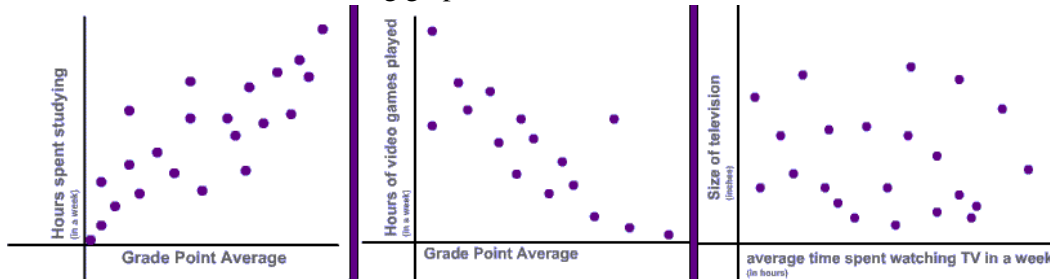
X	1	2	3	4	5	6
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- How many students scored 100% on the quiz? \_\_\_\_\_
- What was the lowest score on the quiz? \_\_\_\_\_
- What was the median score? \_\_\_\_\_
- Where is the data the most spread out? \_\_\_\_\_
- 25% of the students scored above what percentage? \_\_\_\_\_

Mrs. Sanchez's Period 1 Math Quiz Results



12. Describe the correlations for the following graphs.



13. ESTIMATE the r-values for each of the above. \_\_\_\_\_

14. What is standard deviation? \_\_\_\_\_

15. What does SD tell us about a data set? \_\_\_\_\_

16. List the **advantages** and **disadvantages** of each kind of plot below

	Advantages	Disadvantages
Box Plot		
Dot Plot		
Histogram		