

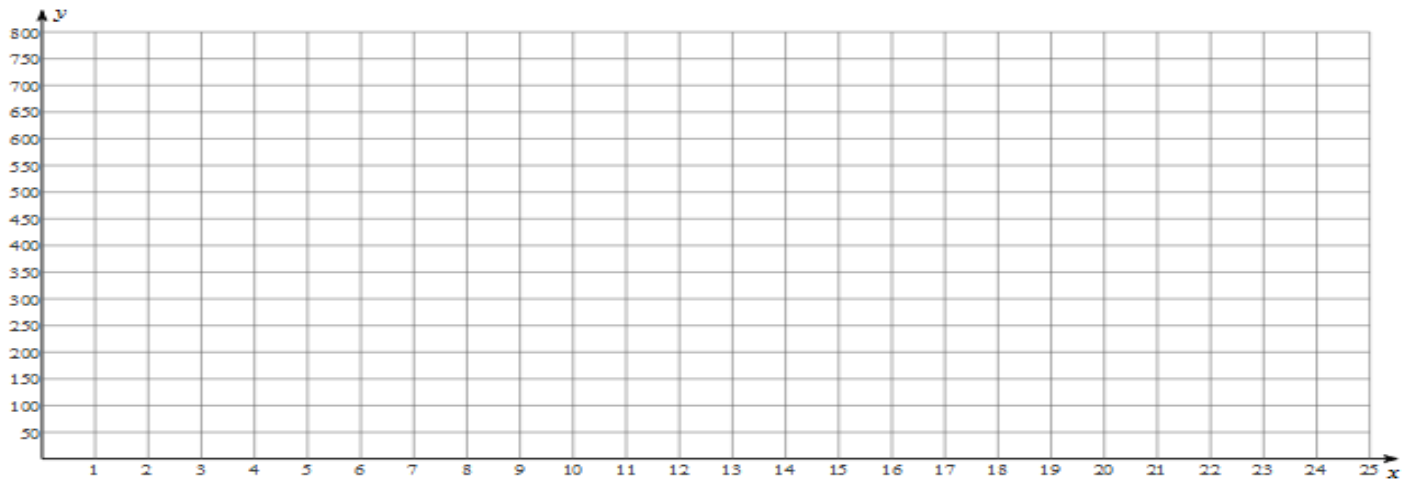
Algebra I – Data & Statistics Test Review

Name _____

I. Data: Is there a relationship between Math SAT scores and the number of hours spent studying for the test? A study was conducted involving 8 students as they prepared for and took the Math section of the SAT Examination. The data is displayed in the table to the right.

Hours Spent Studying	Math SAT Score
4	390
9	580
10	650
14	730
4	410
7	530
12	600
22	790

1) Label your axes, and create a scatter plot of the data on the graph below.



2) Based on your scatter plot, does this data appear to have a positive or negative correlation?

3) Using a ruler, draw the “line of best fit” for the data you plotted.

4) Determine the slope of your line-of-best-fit. Show your calculations.

5) Give the Slope-Intercept form equation of your line of best fit.

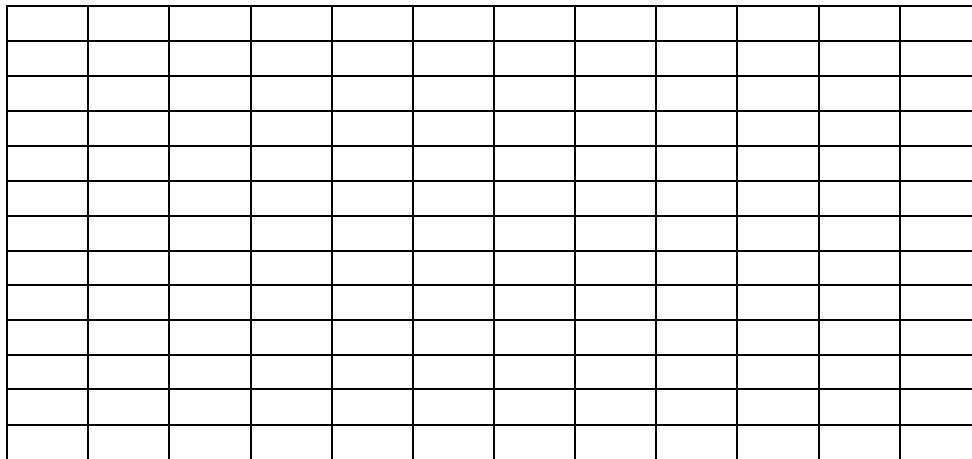
6) Based on the **graph of your line**, what would the expected SAT score be for a student who studied for 6 hours?

7) Based on the **equation from question #5**, what would you expect the SAT score to be for a student who studied for 30 hours? Does this make sense?

II. Mr. Allen-Black's Algebra II class has the following grades for their second quarter progress report:

91	62	78	89	100
77	51	98	48	78
81	87	50	100	38
92	42	91	50	94
86	83	65	82	73

8) On the grid below, create a **histogram** of the grade data. Make your classes size 10. Be sure to label the data accurately.



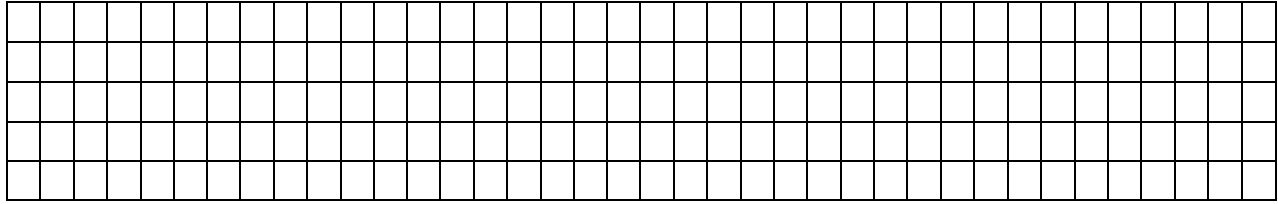
9) How would you describe the distribution of the data from the histogram above?

10) Find the following values for the data above:

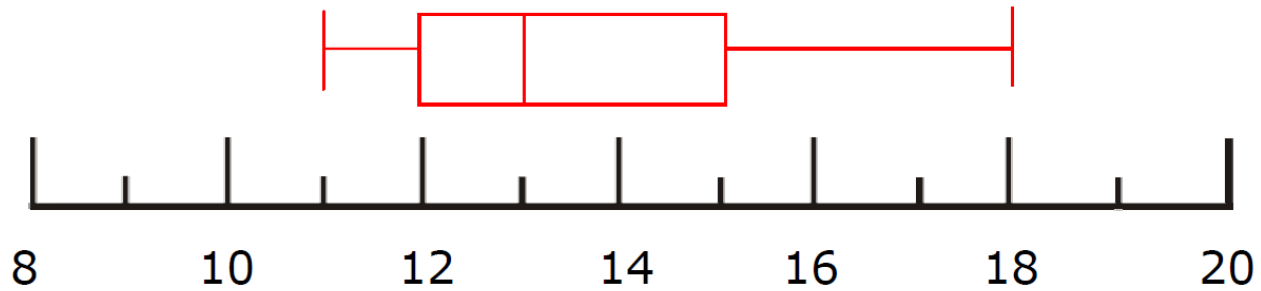
- a) Range
- b) Mean
- c) Median
- d) Mode

11) Using the same grade data, determine the Five-Number Summary of the data. Be sure to identify what each of the five numbers represents.

12) On the grid below, create a **Boxplot** of the grade data from page 2. Be sure to label the data accurately.



III. The Boxplot shown below displays the ages of all of the students in the Lavilla/Douglas Anderson combined movie club.



13) What is the range of the students in the club?

14) What percent of the students are younger than 15?

15) What is the Interquartile Range (IQR) of the data?

16) Do you think more of the students from the club are from LaVilla, or Douglas Anderson, and why?

17) Do you expect the mean age of the club members to be more than, or less than the median age of the club members, and why?

IV. The following data was collected from two classes (A and B) about each student's favorite subject.

Class	Favorite Subject
A	Algebra
A	English
B	History
B	History
B	Algebra
A	Algebra
A	English
B	English
A	English
B	History

Class	Favorite Subject
B	History
B	Algebra
A	English
B	Algebra
A	English
A	History
B	Algebra
B	Algebra
A	History
A	English

18) Create a two-way frequency table to count the data:

Favorite Subject of Students

		Algebra	English	History
Class	A			
	B			
	Total			

19) Create a frequency **marginal** distribution of the data from your tallies above:

Favorite Subject of Students

		Algebra	English	History
Class	A			
	B			
	Total			

20) Create a **relative** frequency marginal distribution of the data from your chart above.

Favorite Subject of Students

		Algebra	English	History
Class	A			
	B			
	Total			

21) What percent of the students in the survey preferred Algebra ?

22) What percent of the students in the survey were in Class A?

23) What percent of the students in Class B preferred Algebra? (Be careful!)