

Name: _____

Date: _____

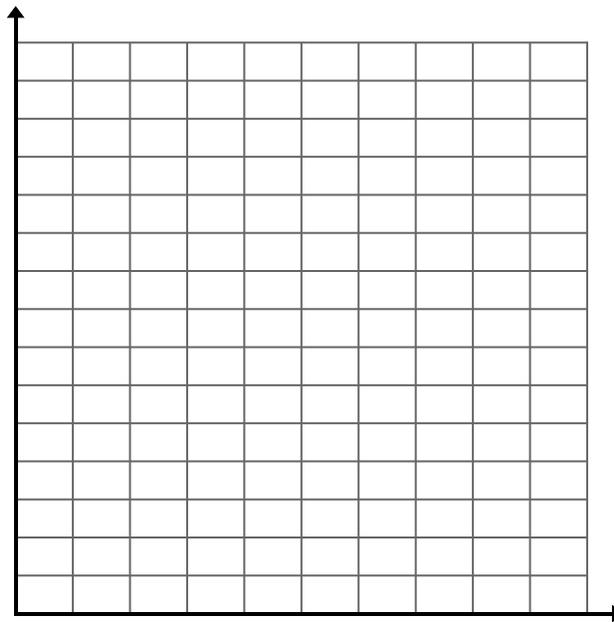
Unit 12 Review

Algebra 1

- 1) Mr. Suppe's recorded the height, in inches, of each student in his class. The results are recorded in the table below.

Interval	Frequency	Cumulative Interval	Cumulative Frequency
55-59	2		
60-64	6		
65-69	7		
70-74	4		
75-79	1		

- a. Complete Mr. Suppe's Cumulative Frequency Table above.
- b. Create a Cumulative Frequency Histogram using the table above.



- c. What percentage of students are taller than 64 inches? _____
- d. Which 5 point interval contains the median? _____

2) Noj has the following test scores 76, 84, 69, 74, 91. His teacher will allow him to retake the test on which he scored the lowest. Noj wants an average of at least 82. Determine the least number of additional points Noj must score on the retest.

3) Which data can be classified as qualitative?

- A. Age of students
- B. Weight of students
- C. Shoe size of students
- D. Hair color of students

4) A survey is being conducted to determine if a cable company should add another sports channel to their schedule. Which random survey would be the least biased?

- A. Surveying 30 men at the gym
- B. Surveying 45 people at the mall
- C. Surveying 50 fans at a football game
- D. Surveying 20 members of a high school soccer team.

5) During the last 15 years of his baseball career, Andres hit the following number of home runs each season.

35, 24, 32, 36, 40, 32, 40, 38, 36, 33, 11, 20, 19, 22, 8

- a. State and label the values of the minimum, 1st quartile, median, 3rd quartile, and maximum.

- b. What is the inter-quartile range?

- c. Calculate the upper and lower boundaries. Are there any outliers?

- d. Use the number line below to construct a box plot for this set of data.

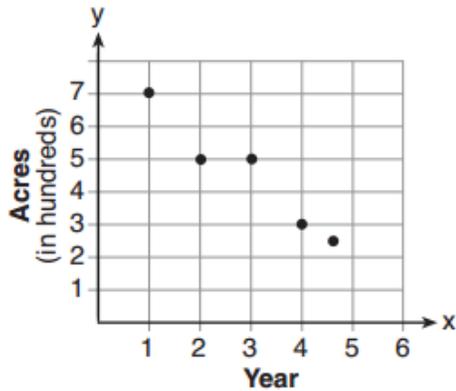


- e. What are the mean and standard deviation?

- f. What percentage of the data falls within one standard deviation of the mean?

6) The graph below illustrates the number of acres used for farming in Smalltown, New York, over several years.

a. Using a line of best fit, approximately how many acres will be used for farming in the 5th year?

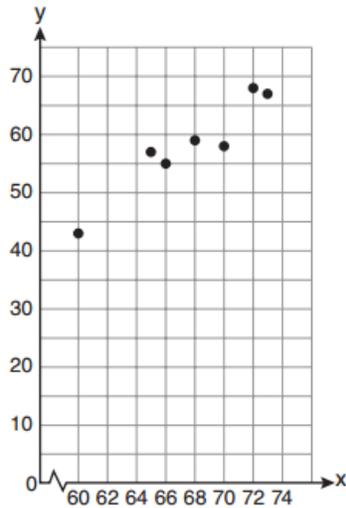


_____ acres

b) How would you describe the correlation of the data presented in the graph above?

- a) strong and positive
- b) weak and positive
- c) strong and negative
- d) weak and negative

7) A set of data is graphed on the scatter plot below.



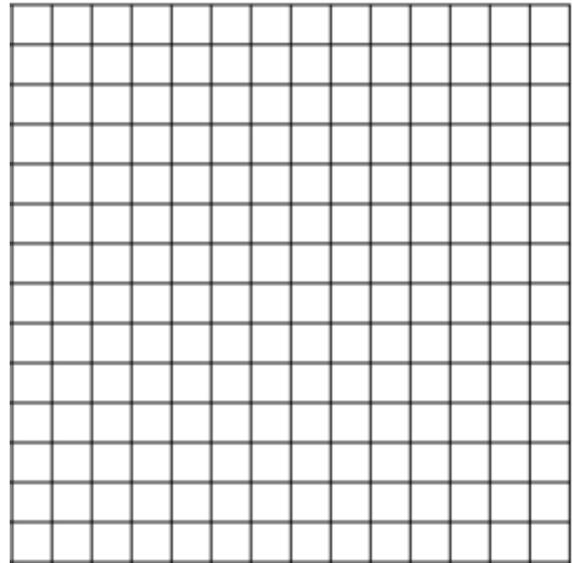
This scatter plot shows

- a) no correlation
- b) positive correlation
- c) negative correlation
- d) undefined correlation

8) Emma recently purchased a new car. She decided to keep track of how many gallons of gas she used on 5 of her business trips. The results are shown in the table below.

(a) Construct a scatterplot of this data set on the grid below.

Miles Driven	Number of Gallons Used
50	1.9
100	3.2
150	5.3
200	6.6
250	8.7
300	10.0



(b) Determine which regression equation to use by finding the coefficient of determination (r^2) associated with a linear, quadratic and exponential model. Round to the nearest thousandth.

(c) Write the regression equation that best fits this data, where miles driven is the independent variable. Round all values to the nearest hundredth.

(d) What is the correlation coefficient, rounded to the nearest thousandth?

(e) How would you characterize the relationship between gallons of gasoline used and miles driven?

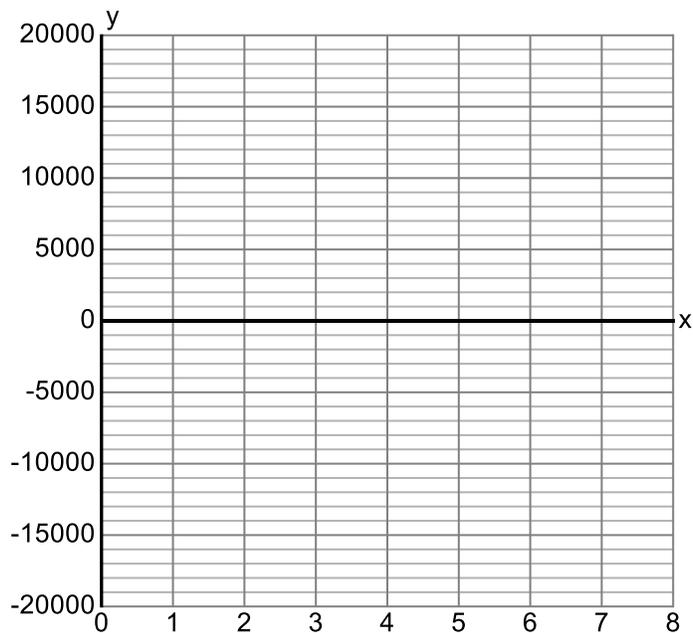
9) About a year ago, Joey watched an online video of a band and noticed that it had been viewed only 843 times. One month later, Joey noticed that the band's video had 1708 views. Joey made the table below to keep track of the cumulative number of views the video was getting online.

Months Since First Viewing	Total Views	Predicted Views	Residuals
0	843		
1	1708		
2	forgot to record		
3	7124		
4	14,684		
5	29,787		
6	62,381		

a. Write a linear regression equation to model the data, and use it to complete the table.

b. Create a residual plot on the grid using the data from the table above.

c. Based on the residual plot, state whether your equation is a good fit for the data. Justify your answer.



d. Write the regression equation that best models these data, and use it to estimate the number views after 2 months.