AC CCGPS ALG/GEO Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 4: Describing Data CFA

Sketch each of the following:

1.  2. 3.

Positive, weak negative, strong no correlation

4. If the correlation coefficient is r = -.76, what can you conclude about the data?

5. What is the line of best fit (linear) for the data provided: The data is the money a waitress made one night

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| hours worked | 1 | 2 | 3 | 4 | 5 | 6 |
| Money made | 12 | 18 | 23 | 30 | 36 | 41 |

Line of best fit:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Make a box and whisker plot with the following data:

5, 6, -7, 0, 7, 8, 5, 10, 5, 7

Are there any outliers? If so, what are the limitations?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is the interquartile range?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. What is the Mean Absolute Value of the data above?

8. If the exponential regression equation is ….

a) What is the initial value?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) What is the rate of decay?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c) what is the value of y when x = 3?\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. A study of graduates’ average grades and degrees showed the following results.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Degree | C | B | A | Total |
| B.S. | 5 | 8 | 15 |  |
| B.A. | 7 | 12 | 8 |  |
| Total |  |  |  |  |

If a graduate student is selected at random, find these conditional frequencies.

1. The graduate has a B.S. degree, given that he or she has an A average.

b. Given that the graduate has a B.A. Degree, the graduate has a C Average.

10. For the set of data, perform a residual analysis. Fill in the table with the predicted values and residual values (use 3 decimal places).

 Construct the residual plot:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | x | y | predicted | residual | | 5 | 9.12 |  |  | | 12 | 7.89 |  |  | | 22 | 12.87 |  |  | | 18 | 8.1 |  |  | | 3 | 9 |  |  | | 14 | 5.6 |  |  | |  |

Based on the residuals, is this a good fit?\_\_\_\_\_\_ Why or why not?