

Chapters 3 and 4

ONE AND TWO-VARIABLE DATA

Part 1: Multiple choice: Circle the correct answer (1 mark each)

1. When determining if a conclusion using statistics is valid one must consider
 - a. The source of the study
 - b. The population and sample
 - c. Possible bias in questions
 - d. All of the above
2. To say that Jay has a mark in math class in the 86th percentile means that:
 - a. 14% of the class has a higher mark than Jay
 - b. Jay's mark is 86%
 - c. Jay's mark is in the 2nd quartile
 - d. 14 people have a mark higher than Jay's
3. Data set A has a correlation coefficient of 0.86 and data set B has a correlation coefficient of 0.46. Which statement is true?
 - a. The data in Set A is closer to a line of best fit than that in set B
 - b. Data set A is not a good linear relationship
 - c. Data set B has a strong positive correlation
 - d. The data in Set B is closer to a line of best fit than that in set A
4. Given the data 2,5,3,7,11,14,4,6,5,2,1, the range is
 - a. 11
 - b. 14
 - c. 13
 - d. 2
5. When it is said that two variables have a "cause and effect" relationship that means:
 - a. That the two variables have a moderate correlation
 - b. That a linear regression is the best way to represent the data
 - c. That one variable causes the other variable to change
 - d. That one variable causes the other variable to increase
6. Price indices:
 - a. Give the price of items in a specific city
 - b. Compare prices to a specific value
 - c. Are showing the change over time
 - d. Are used by companies to set prices for the future
7. If Huron Heights has 1155 students, how many students would have to be surveyed to have a sample size of 35%?
 - a. 404
 - b. 347
 - c. 385
 - d. 420

Short Answer:

8. If the marks in the class are 46, 89, 65, 78, 34, 65, 78, 87, 99, 59, 76, 87
 - a. Determine the quartiles of the data
 - b. If Justin's mark is in the 85th percentile, what is his mark?

9. Draw a sketch of a scatter plot the shows each of the following correlations.

- a. Strong positive correlation
- b. Weak negative correlation
- c. Moderate positive correlation

10. a. Use the TI-83 to graph the data below. Include a line of best fit.

Time spent studying (hours)	1	3	3	4	1	6	7	2	3	1
Marks on Final Exam	78	80	70	92	70	99	89	50	62	48

- b. Sketch your graph on graph paper.
 - c. Determine the equation of the line of best fit and put it on your graph.
 - d. Determine the correlation coefficient. Is this a strong correlation? Explain.
11. The principal of the school wants to determine if there is a correlation between the number of hours spent on a cell phone each day and the marks a student receives in any particular class. How might he/she go about designing a study to determine this?