

NAME: _____

P.I. A.S.4: Compare and contrast the appropriateness of different measures of central tendency for a given data set

1. Explain three familiar measures of central tendency.
2. Would you use the mean, median, or mode to determine the favorite subject of your math classmates? Explain why.
3. Explain why a teacher might use the median instead of the mean as the average grade for a set of tests. Give a specific example.

The mean is the sum of the data divided by the number of items. The median is the midpoint of the data when arranged in numerical order. The mode is the item that occurs most frequently. All three are

[1] indicators of central tendency.

[2] Since the data is not numerical, one would use the mode.

Answers may vary. Sample: If there is a large range of scores or a few outliers, the median may be a better measure of the class average score instead of the mean. For example, the mean of the following scores is 76 and the median is 87.

90 85 88 75 15 92 87

The outlier (15) made the mean lower than most of the grades. The median is a more accurate measure

[3] of the average score.

Answers may vary. Sample: If the number changed is greater than the original number, the mean will be larger. If the number changed is smaller than the original number then the mean will be smaller.

[4] larger. If the number changed is smaller than the original number then the mean will be smaller.

The mean can be most affected since one very large or very small number can change the mean a great deal.

[5] deal.

Answers may vary. Sample: An outlier is a data item that is not close to the rest of the data. It can influence the mean and make it higher or lower than the mean of the data without the outlier.

[6] influence the mean and make it higher or lower than the mean of the data without the outlier.

[7] Answers may vary. Sample: 5, 6, 7, 10, 12
