Mean Median Mode Range Worksheet

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Part 1: Building a Foundation

What is the mean of the following set of numbers: 4, 8, 6, 5, 3?

Hint: Calculate the average of the numbers.

- ◯ A) 5
- ◯ B) 6
- ◯ C) 4
- ◯ D) 7

Which of the following statements are true about the median?

Hint: Consider the properties of the median in a dataset.

- ☐ A) It is always one of the numbers in the dataset.
- ☐ B) It divides the dataset into two equal halves.
- ☐ C) It is affected by extreme values.
- ☐ D) It is the same as the mean in a symmetric distribution.

Explain what the mode of a dataset represents and provide an example.

Hint: Think about the most frequently occurring number.

List the steps to calculate the range of a dataset.

Hint: Consider the highest and lowest values.

1. Step 1

2. Step 2

3. Step 3

Part 2: Interpreting Statistical Measures

In a dataset of exam scores, which measure would best represent the typical score if there are a few extremely low scores?

Hint: Consider which measure is least affected by outliers.

- ◯ A) Mean
- ◯ B) Median
- ◯ C) Mode
- ◯ D) Range

Which of the following datasets have a mode? Select all that apply.

Hint: Identify the dataset with repeating values.

- ☐ A) 1, 2, 3, 4, 5
- ☐ B) 3, 3, 4, 5, 6
- ☐ C) 7, 8, 9, 9, 10
- ☐ D) 11, 12, 13, 14, 15

Describe how outliers can affect the mean and median of a dataset.

Hint: Consider the impact of extreme values on these measures.

Part 3: Applying and Analyzing Concepts

A teacher calculates the average score of a class test as 75. If one student scored 100, which measure would likely be higher than the mean?

Hint: Think about the effect of a high score on the median.

- ◯ A) Median
- ◯ B) Mode
- ◯ C) Range
- ◯ D) None

Given the dataset 5, 7, 7, 8, 10, 12, which measures are equal? Select all that apply.

Hint: Calculate the mean, median, and mode to find equal measures.

- ☐ A) Mean
- ☐ B) Median
- ☐ C) Mode
- ☐ D) Range

Calculate the mean, median, mode, and range of the following dataset: 15, 20, 20, 25, 30.

Hint: Use the definitions of each measure to perform the calculations.

In a dataset where the mean is significantly higher than the median, what can be inferred about the distribution?

Hint: Consider the implications of skewness in the data.

- ◯ A) It is symmetric.
- ◯ B) It is left-skewered.
- ◯ C) It is right-skewered.
- ◯ D) It has no skew.

Which of the following are true if a dataset has multiple modes? Select all that apply.

Hint: Consider the characteristics of multimodal datasets.

- ☐ A) It is bimodal or multimodal.
- ☐ B) The mean will be equal to the median.
- ☐ C) The dataset has clusters of repeated values.
- ☐ D) The range will be zero.

Analyze the following dataset and explain which measure of central tendency is most appropriate: 2, 2, 3, 4, 100.

Hint: Consider the impact of the outlier on the measures.

Part 4: Synthesis and Reflection

Which measure would you use to compare the consistency of two datasets with similar means but different ranges?

Hint: Consider which measure reflects variability.

- ◯ A) Mean
- ◯ B) Median
- ◯ C) Mode

◯ D) Range

When evaluating the performance of a sports team over a season, which measures could provide useful insights? Select all that apply.

Hint: Consider which measures reflect overall performance.

- ☐ A) Mean score per game
- ☐ B) Median score per game
- ☐ C) Mode of scores
- ☐ D) Range of scores

Create a real-world scenario where the median is a more appropriate measure than the mean, and explain why.

Hint: Think about situations with outliers.

Propose a method to visually represent the mean, median, mode, and range of a dataset and explain its benefits.

Hint: Consider graphical representations.

1. Method 1

2. Method 2

3. Method 3