

Mean Median Mode Range Worksheet Answer Key PDF

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Part 1: Building a Foundation

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

undefined. A) 5

undefined. B) 6 ✓

undefined. C) 4

undefined. D) 7

The mean is calculated by adding all numbers and dividing by the count.

Which of the following statements are true about the median?

undefined. A) It is always one of the numbers in the dataset.

undefined. B) It divides the dataset into two equal halves. ✓

undefined. C) It is affected by extreme values.

undefined. D) It is the same as the mean in a symmetric distribution. ✓

The median is the middle value and is not affected by extreme values.

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

The mode is the value that appears most frequently in a dataset.

List the steps to calculate the range of a dataset.

1. Step 1

Identify the maximum value.

2. Step 2

Identify the minimum value.

3. Step 3

Subtract the minimum from the maximum.

The range is calculated by subtract the smallest value from the largest value.

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?

undefined. A) Mean

undefined. B) Median ✓

undefined. C) Mode

undefined. D) Range

The median is less affected by extreme values and better represents the typical score.

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

undefined. A) 1, 2, 3, 4, 5

undefined. B) 3, 3, 4, 5, 6 ✓

undefined. C) 7, 8, 9, 9, 10 ✓

undefined. D) 11, 12, 13, 14, 15

A mode exists in datasets where at least one value appears more than once.

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

Outliers can significantly skew the mean, while the median remains more stable.

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?

undefined. A) Median ✓

- undefined. B) Mode
- undefined. C) Range
- undefined. D) None

The median is likely to be higher than the mean due to the outlier.

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

- undefined. A) Mean
- undefined. B) Median ✓**
- undefined. C) Mode ✓**
- undefined. D) Range

The mean, median, and mode can be equal in certain datasets.

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

The calculations will yield specific values for mean, median, mode, and range.

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

- undefined. A) It is symmetric.
- undefined. B) It is left-skewed.
- undefined. C) It is right-skewed. ✓**
- undefined. D) It has no skew.

The distribution is likely right-skewed due to the higher mean.

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

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

A dataset with multiple modes indicates clusters of repeated values.

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

The median is likely the most appropriate measure due to the outlier.

Part 4: Synthesis and Reflection

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

undefined. A) Mean

undefined. B) Median

undefined. C) Mode

undefined. D) Range ✓

The range is the best measure to compare consistency in this case.

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

undefined. A) Mean score per game ✓

undefined. B) Median score per game ✓

undefined. C) Mode of scores ✓

undefined. D) Range of scores ✓

Mean, median, mode, and range can all provide insights into performance.

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

The median is often more representative in skewed distributions.

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

1. Method 1

Use a box plot to show median and range.

2. Method 2

Create a histogram to visualize frequency.

3. Method 3

Use a line graph to show trends over time.

Visual representations can enhance understanding of data distribution.