LESSON MAKER PRO

Data Detectives

Find the center and spread in data sets.

GRADE 6 · MA.6.DP.1.2

MA.6.DP.1.2 "Given a numerical data set within a real-world context, find and interpret mean, median, mode and range."

NAME _____ DATE _____

FOUR DATA CLUES

The mean is the sum of the values divided by the number of values. Put values in order to find the median, look for the most frequent value to find the mode, and subtract the least value from the greatest value to find the range.

WORKED EXAMPLE

Find the mean, median, mode, and range of 3, 11, 11, 17, 23.

1. Order the data: 3, 11, 11, 17, 23.
2. Mean: (3 + 11 + 11 + 17 + 23) / 5 = 13.
3. Median is 11, the middle value. Mode is 11, the value that appears most often.
4. Range: 23 - 3 = 20.

Answer: Answer: Mean = 13, median = 11, mode = 11, range = 20.

PRACTICE 6 problems

1 Find the mean of 1, 7, 10, 14.

ANSWER _____

2 Find the median of 14, 1, 16, 10, 18.

ANSWER _____

3 Find the mode of 16, 19, 16, 21, 22, 19, 16.

ANSWER _____

4 Find the range of 24, 27, 25, 31.

ANSWER _____

5 Find the mean, median, mode, and range of 1, 2, 2, 8, 16, 19.

ANSWER _____

6 Find the mean, median, mode, and range of 14, 19, 22, 26, 29.

ANSWER _____

APPLY IT Show your work

1 A music app shows the number of songs Maya listened to on different days: 21, 24, 24, 28, 33. Find the mean, median, mode, and range. Then tell what each measure says about Maya's listening.

WORK SPACE

ANSWER _____

2 The scores earned by players in one game round were 72, 76, 81, 81, 85, 91. Find the mean, median, mode, and range. Interpret the results in the context of the game.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A runner records five practice lap times, in seconds: 30, 34, x, 38, 38. The mean time is 36 seconds. Find x. Then find the median, mode, and range, and explain how you know.

WORK SPACE AND ANSWER

ANSWER KEY # Data Detectives

GRADE 6 · MA.6.DP.1.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the mean of 1, 7, 10, 14.	**8**
2	Find the median of 14, 1, 16, 10, 18.	**14**
3	Find the mode of 16, 19, 16, 21, 22, 19, 16.	**16**
4	Find the range of 24, 27, 25, 31.	**7**
5	Find the mean, median, mode, and range of 1, 2, 2, 8, 16, 19.	**Mean = 8, median = 5, mode = 2, range = 18.**
6	Find the mean, median, mode, and range of 14, 19, 22, 26, 29.	**Mean = 22, median = 22, no mode, range = 15.**

PART 2 · APPLY IT

1. **Mean = 26 songs, median = 24 songs, mode = 24 songs, range = 12 songs. Maya listened to 26 songs per day on average, 24 songs is the middle amount and most frequent amount, and her greatest and least amounts differ by 12 songs.** Add the values to get 130, then divide by the number of values to get 26. Order the data to identify the middle value and repeated value, then subtract 21 from 33 for the range.
2. **Mean = 81 points, median = 81 points, mode = 81 points, range = 19 points. The average score was 81 points, the middle score was 81 points, 81 was the most common score, and the scores spread across 19 points.** The total is 486, and 486 / 6 = 81. The two middle values are both 81, and 91 - 72 = 19.

CHALLENGE

x = 40. The ordered times are 30, 34, 38, 38, 40, so the median is 38, the mode is 38, and the range is 10. A mean of 36 for five times requires a total of 180, and 30 + 34 + 38 + 38 = 140, so x = 40.

Accept answers with labels in any order. For a data set with no repeated value, accept "no mode" or "there is no mode."