LESSON MAKER PRO

Data Detective Notes

Find the center and spread in each data set.

GRADE 6 · 6.SP.B.5

CCSS.Math.Content.6.SP.B.5 "Summarize numerical data sets in relation to their context, such as by:"

NAME _____ DATE _____

SUMMARIZE THE SET

To summarize a data set, find measures of center and spread. The mean is the sum of the values divided by the number of values, and the median is the middle value when ordered, or the average of the two middle values when there is an even number of values. The mode is the value that occurs most often, and the range is the greatest value minus the least value.

WORKED EXAMPLE

A set of book lengths, in pages, is 14, 18, 22, and 30. Find the mean.

1. Add the values: 14 + 18 + 22 + 30 = 84.
2. Count the values: 4.
3. Divide the total by the count: 84 / 4 = 21.

Answer: Answer: Mean = 21 pages

PRACTICE 6 problems

1 Find the mean of 5, 7, 9, 11, 13.

ANSWER _____

2 Find the median of 5, 9, 13, 17.

ANSWER _____

3 Find the mode of 6, 6, 8, 8, 8, 12.

ANSWER _____

4 Find the range of 17, 19, 25, 27.

ANSWER _____

5 Find the mean, median, mode, and range of 5, 5, 8, 10, 12.

ANSWER _____

6 Set A is 9, 10, 11, 12. Set B is 6, 10, 11, 15. Which set has less variability? Use the ranges.

ANSWER _____

APPLY IT Show your work

1 During five days, Nia tracked the number of songs she practiced on guitar: 9, 11, 13, 15, 17. Find the mean, median, mode, and range.

WORK SPACE

ANSWER _____

2 Ari made 9, 12, and 15 successful free throws in three practices. Sam made 7, 12, and 17 successful free throws in three practices. Which student's results were more consistent? Calculate each mean and range to support your answer.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Five video clips have view lengths, in minutes, of 11, 13, 17, 20, and x. The mean length is 19 minutes. Find x. Then explain why the median is 17 minutes.

WORK SPACE AND ANSWER

ANSWER KEY

Data Detective Notes

GRADE 6 · 6.SP.B.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the mean of 5, 7, 9, 11, 13.	**9**
2	Find the median of 5, 9, 13, 17.	**11**
3	Find the mode of 6, 6, 8, 8, 8, 12.	**8**
4	Find the range of 17, 19, 25, 27.	**10**
5	Find the mean, median, mode, and range of 5, 5, 8, 10, 12.	**Mean = 8, median = 8, mode = 5, range = 7**
6	Set A is 9, 10, 11, 12. Set B is 6, 10, 11, 15. Which set has less variability? Use the ranges.	**Set A has less variability. Its range is 3, and Set B's range is 9.**

PART 2 · APPLY IT

1. **Mean = 13, median = 13, no mode, range = 8** The values are already ordered. Their total is 65, so the mean is 13; the middle value is 13, no value repeats, and 17 - 9 = 8.
2. **Ari's results were more consistent.** Both means are 12, but Ari's range is 6 and Sam's range is 10. Each student's total is 36, so both means are 12. Ari has the smaller range, so Ari's results are more consistent.

CHALLENGE

x = 34. The total must be 5 x 19 = 95, and the known lengths total 61, so x = 34. The ordered lengths are 11, 13, 17, 20, 34, so 17 is the middle value.

Accept equivalent wording for no mode and for the comparison statements. For summary answers, accept measures listed in any order when each value is correct.