LESSON MAKER PRO

Data Detectives

Find the mode, median, and range in each set of data.

GRADE 4 · MA.4.DP.1

MA.4.DP.1 "Collect, represent and interpret data and find the mode, median and range of a data set."

NAME _____ DATE _____

THREE DATA CLUES

Put data in order from least to greatest before finding the median or range. The mode is the value that appears most often, the median is the middle value, and the range is the greatest value minus the least value. If there are two middle values, add them and divide by 2.

WORKED EXAMPLE

Find the mode, median, and range for 14, 6, 3, 6, 10.

1. Order the data: 3, 6, 6, 10, 14.
2. 6 appears most often, so the mode is 6.
3. The middle value is 6, so the median is 6.
4. Subtract: 14 - 3 = 11, so the range is 11.

Answer: Mode: 6; median: 6; range: 11

PRACTICE 6 problems

1 Find the mode: 4, 9, 4, 7, 1

ANSWER _____

2 Find the median: 15, 13, 18, 16, 17

ANSWER _____

3 Find the range: 21, 24, 28

ANSWER _____

4 Find the mode, median, and range: 24, 22, 27, 24, 26

ANSWER _____

5 Use the frequency table. What is the mode?

Value	Frequency
12	3
13	5
15	4

ANSWER _____

6 Find the mode, median, and range: 40, 45, 47, 45, 49

ANSWER _____

APPLY IT Show your work

1 At a game club, the number of points earned by players was 16, 18, 20, 20, 22, and 23. Find the mode, median, and range.

2 Pose a question about the lengths of five classroom pencils. Measure each pencil to the nearest centimeter and record all five actual values in a table. Make a frequency table of those values, then find the mode, median and range. Write one conclusion about these five pencils.

CHALLENGE One step up

Rina recorded these lap times in seconds: 42, 44, 44, 46, 48, 48, 51. She says the data have two modes. Is she correct? Find both modes, the median, and the range. Explain why.

ANSWER KEY

Data Detectives

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the mode: 4, 9, 4, 7, 1	**4**
2	Find the median: 15, 13, 18, 16, 17	**16**
3	Find the range: 21, 24, 28	**7**
4	Find the mode, median, and range: 24, 22, 27, 24, 26	**Mode: 24; median: 24; range: 5**
5	Use the frequency table. What is the mode?	**13**
6	Find the mode, median, and range: 40, 45, 47, 45, 49	**Mode: 45; median: 45; range: 9**

PART 2 · APPLY IT

1. **Mode: 20; median: 20; range: 7** The data are already in order. The middle pair is 20 and 20, and the range is 23 - 16.
2. **Answers depend on actual measurements. Example 12,14,14,16,19 cm: mode 14 cm, median 14 cm, range 7 cm. Frequency table 12:1,14:2,16:1,19:1.** Supply five pencils and a centimeter ruler. Require measured values, a frequency table totaling five, statistics computed from those values and a supported conclusion. If no value repeats, report no mode; accept multiple tied modes.

CHALLENGE

Yes. The modes are 44 and 48 because each appears twice. The median is 46, and the range is 9.

Accept mode, median, and range in any order when labels are clear. For the challenge, accept an explanation that identifies both repeated values and gives the correct median and range. Observe actual measurements. The sample key is an illustration, not required data; do not substitute its values for student observations.