LESSON MAKER PRO

Data Detective Lab

Find the center and spread of a set of data.

GRADE 5 · 5.D.1

5.D.1 "Create and analyze data to find the range and measures of central tendency (mean, median, mode). Find the measures of central tendency (i.e., mean, median, mode) and range of a set of data..."

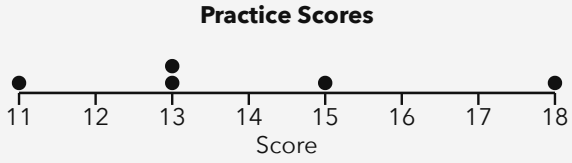
NAME _____ DATE _____

FIND THE CENTER

To find the mean, add the values and divide by how many values there are. The mean is a balance point: moving an amount from one value to another does not change it. To find the median, put the values in order and choose the middle; the mode appears most often, and the range is the largest value minus the smallest.

WORKED EXAMPLE

Use the dot plot to find the mean, median, mode, and range.

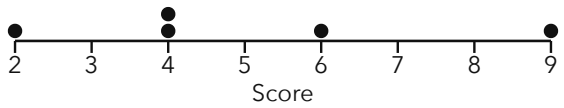


1. Add the five scores: 11 + 13 + 13 + 15 + 18 = 70.
2. Divide to find the mean: 70 / 5 = 14.
3. The middle score is 13, and 13 appears most often.
4. Subtract to find the range: 18 - 11 = 7.

Answer: Mean: 14; median: 13; mode: 13; range: 7.

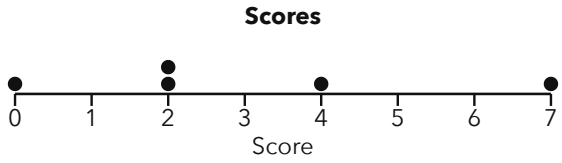
PRACTICE 6 problems

1 Find the mean of the values in the dot plot.



ANSWER _____

2 Find the median and range of the values in the dot plot.



ANSWER _____

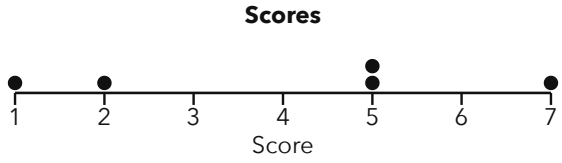
3 Find the mode of 6, 8, 6, 9, 10.

ANSWER _____

4 Find the range of 0.5, 1.5, 2, 3.

ANSWER _____

5 Find the mean and median of the values in the dot plot.



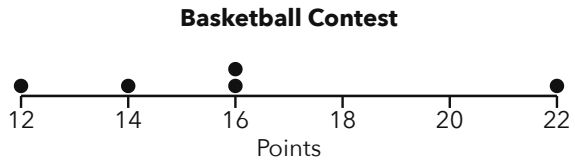
ANSWER _____

6 The scores are 2, 4, 6, 8, and 10. If 2 points move from the highest score to the lowest score, what is the new mean?

ANSWER _____

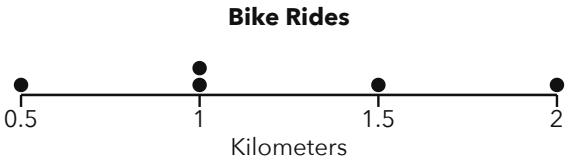
APPLY IT Show your work

1 Five teams scored the points shown in the dot plot during a basketball contest. Find the mean and mode of their scores.



ANSWER _____

2 Five friends recorded how many kilometers they biked. Use the dot plot to find the mean distance and the range.



ANSWER _____

CHALLENGE One step up

One game score changed. Compare the before and after scores in the table. Which of these measures changed: mean, median, and range? Give the before and after value of each measure.

GAME SCORES

Before	After
2	4
4	4
4	4
6	6
8	8

WORK SPACE AND ANSWER

ANSWER KEY

Data Detective Lab

GRADE 5 · 5.D.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the mean of the values in the dot plot.	**5**
2	Find the median and range of the values in the dot plot.	**Median: 2; range: 7.**
3	Find the mode of 6, 8, 6, 9, 10.	**6**
4	Find the range of 0.5, 1.5, 2, 3.	**2.5**
5	Find the mean and median of the values in the dot plot.	**Mean: 4; median: 5.**
6	The scores are 2, 4, 6, 8, and 10. If 2 points move from the highest score to the lowest score, what is the new mean?	**6**

PART 2 · APPLY IT

1. **Mean: 16 points; mode: 16 points.** The scores add to 80, so the mean is 80 / 5 = 16 points. The score of 16 appears twice, more often than any other score.
2. **Mean: 1.2 km; range: 1.5 km.** The distances add to 6 km, so the mean is 6 / 5 = 1.2 km. The range is 2 - 0.5 = 1.5 km.

CHALLENGE

The mean changed from 4.8 to 5.2. The range changed from 6 to 4. The median stayed 4.

Accept equivalent units in the word problems. In practice problem 6, moving points between scores keeps the total at 30, so the mean remains 6.