

Data Detectives

Find the center and spread in real data.

GRADE 5 • 5.PS.2

5.PS.2 "The student will solve contextual problems using measures of center and the range. Describe mean as fair share. Describe and determine the mean of a set of data values representing data from a given context as a measure of center..."

NAME _____

DATE _____

CENTER AND SPREAD

The mean is the fair share, or the equal amount each value would have if the total were shared equally. Put data in order to find the median, the middle value, and find the mode, the value that appears most often. The range shows spread. Subtract the least value from the greatest value.

WORKED EXAMPLE

Find the mean, median, mode, and range of 41, 43, 45, 47, 49.

1. Put the data in order: 41, 43, 45, 47, 49.
2. Find the mean: $(41 + 43 + 45 + 47 + 49) / 5 = 225 / 5 = 45$.
3. The middle value is 45, so the median is 45. No value repeats, so there is no mode.
4. Find the range: $49 - 41 = 8$.

Answer: Mean: 45; median: 45; mode: no mode; range: 8

PRACTICE 6 problems

- 1** Find the mean of 4, 12, 16, and 20.

ANSWER _____

- 2** Find the median of 14, 2, 18, 6, and 10.

ANSWER _____

- 3** Find the mode of 6, 6, 10, 14, 14, and 14.

ANSWER _____

- 4** Find the range of 13, 21, 17, and 25.

ANSWER _____

- 5** A card collector has 20, 24, and 28 cards in three binders. Which measure shows the fair-share number of cards per binder? Find it.

ANSWER _____

- 6** Find the mean, median, mode, and range of 2, 4, 4, 6, and 14.

ANSWER _____

APPLY IT Show your work

- 1** During four reading sessions, Nia read 18, 22, 26, and 30 pages. What was her mean number of pages per session? What was the range of pages she read?

WORK SPACE

ANSWER _____

- 2** A game club tracked the number of minutes six players practiced: 16, 20, 20, 24, 28, 32. Find the median and the mode.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A soccer player recorded the number of times she juggled a ball in six tries: 12, 18, 18, 24, 30, and _____. The mean was 21. Find the missing value. Then find the median, mode, and range.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find the mean of 4, 12, 16, and 20.	13
2	Find the median of 14, 2, 18, 6, and 10.	10
3	Find the mode of 6, 6, 10, 14, 14, and 14.	14
4	Find the range of 13, 21, 17, and 25.	12
5	A card collector has 20, 24, and 28 cards in three binders. Which measure shows the fair-share number of cards per binder? Find it.	Mean, 24 cards
6	Find the mean, median, mode, and range of 2, 4, 4, 6, and 14.	Mean: 6; median: 4; mode: 4; range: 12

PART 2 • APPLY IT

- Mean: 24 pages per session; range: 12 pages** Add the pages to get 96, then share equally among four sessions to get 24. Subtract 18 from 30 to find the range of 12.
- Median: 22 minutes; mode: 20 minutes** The middle two values are 20 and 24, so their average is 22. The value 20 appears more often than any other value.

CHALLENGE

Missing value: 24; median: 21; modes: 18 and 24; range: 18

Accept "no mode" or "none" when no value repeats. In the challenge, accept either order for the two modes, 18 and 24.