LESSON MAKER PRO

What's Typical?

Find the center and spread of real data.

GRADE 6 · 6.DSP.A.23

6.DSP.A.23 "Calculate, interpret, and compare measures of center (mean, median, mode) and variability (range and interquartile range) in real-world data sets. a. Determine which measure of center best represents a real-world data set. b..."

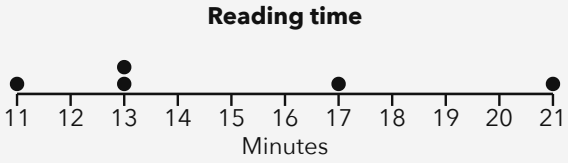
NAME _____ **DATE** _____

CENTER AND SPREAD

The mean is the sum divided by the number of values. The median is the middle value when the data are sorted, and the mode occurs most often. Range is largest minus smallest; IQR is the upper-half median minus the lower-half median. Leave out the middle value when finding halves of an odd-sized set. An outlier can make the median a better measure of a typical value.

WORKED EXAMPLE

These are minutes spent reading on five days. Find the mean, median, mode, range, and IQR.



1. Mean: (11 + 13 + 13 + 17 + 21) / 5 = 15.
2. The middle value is 13. The most frequent value is 13.
3. Range: 21 - 11 = 10.
4. Leave out the middle value. Q1 = (11 + 13) / 2 = 12; Q3 = (17 + 21) / 2 = 19. IQR = 19 - 12 = 7.

Answer: Mean: 15 minutes; median: 13 minutes; mode: 13 minutes; range: 10 minutes; IQR: 7 minutes.

PRACTICE 4 problems

1 Find the mean: 2, 4, 4, 6.

ANSWER _____

2 Find the median and mode: 3, 5, 5, 7, 8.

ANSWER _____

3 Find the range and IQR: 1, 2, 4, 6, 8, 9.

ANSWER _____

4 Find the mean and median: 2, 3, 3, 4, 8.

ANSWER _____

APPLY IT Show your work

1 A club timed six rounds of a phone game. Find the median and IQR in seconds. What does the IQR tell you?



ANSWER _____

2 Five friends practiced a dance. Find the mean and median practice times. Which better describes a typical time? Why?

DANCE PRACTICE

Friend	Minutes
A	5
B	6
C	6
D	7
E	26

ANSWER _____

CHALLENGE One step up

Two teams each have a range of 8 points. Team A: 1, 4, 4, 6, 6, 9. Team B: 1, 2, 4, 6, 8, 9. Which team has more consistent scores by IQR? Show both IQRs.

WORK SPACE AND ANSWER

ANSWER KEY

What's Typical?

GRADE 6 · 6.DSP.A.23

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the mean: 2, 4, 4, 6.	**4**
2	Find the median and mode: 3, 5, 5, 7, 8.	**Median: 5; mode: 5.**
3	Find the range and IQR: 1, 2, 4, 6, 8, 9.	**Range: 8; IQR: 6.**
4	Find the mean and median: 2, 3, 3, 4, 8.	**Mean: 4; median: 3.**

PART 2 · APPLY IT

1. **Median: 23 seconds; IQR: 4 seconds. The middle half of the times spans 22 to 26 seconds.** The median is (22 + 24) / 2 = 23. The lower-half median is 22 and the upper-half median is 26, so the IQR is 26 - 22 = 4.
2. **Mean: 10 minutes; median: 6 minutes. The median better describes a typical time because 26 minutes pulls the mean up.** The times total 50 minutes, so the mean is 50 / 5 = 10 minutes. The middle time is 6 minutes.

CHALLENGE

Team A: IQR = 6 - 4 = 2 points. Team B: IQR = 8 - 2 = 6 points. Team A has more consistent scores by IQR.

Accept equivalent explanations that correctly connect a smaller IQR with less spread in the middle half of the data.