LESSON MAKER PRO

Spot the Spread

Find the center and spread of real-world data.

GRADE 6 · 6.SP.5

6.SP.5 "Summarize numerical data sets in relation to their real-world context. Report the sample size. Describe the context of the data under investigation, including how it was measured and its units of measurement..."

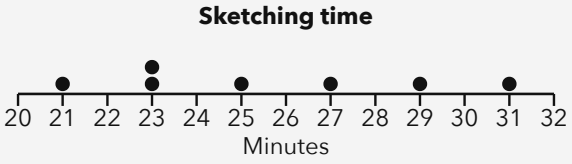
NAME _____ DATE _____

CENTER AND SPREAD

Order the data to find the median, the middle value, and the mode, the most common value. Find Q1 and Q3 as the medians of the lower and upper halves, leaving out the middle value when the count is odd; IQR = Q3 - Q1. Mean = sum ÷ count, and range = greatest - least.

WORKED EXAMPLE

The dot plot shows the minutes spent sketching on seven days. Find the median and IQR.

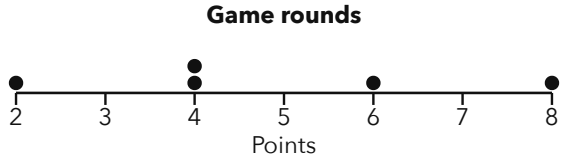


1. Read the values in order: 21, 23, 23, 25, 27, 29, 31.
2. The middle value is 25, so the median is 25 minutes.
3. The lower half has median 23, and the upper half has median 29.
4. IQR = 29 - 23 = 6 minutes.

Answer: Median: 25 minutes; IQR: 6 minutes.

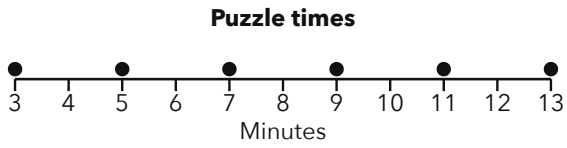
PRACTICE 6 problems

1 The dot plot shows points earned in five rounds of a game. Find the median and mode.



ANSWER _____

2 The dot plot shows minutes spent on six puzzles. Find the median and IQR.



ANSWER _____

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3 A student practiced a song for 1, 3, 5, 7, and 9 minutes over five days. Find the mean and range.

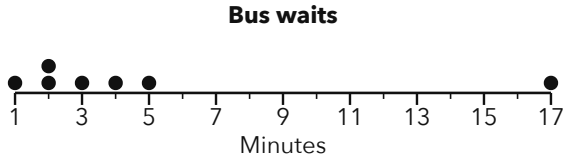
ANSWER _____

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4 Eight paper planes flew 4, 6, 8, 10, 12, 14, 16, and 18 feet. Find the IQR of their flight distances.

ANSWER _____

5 The dot plot shows minutes students waited for a bus. Which measure, mean or median, better describes a typical wait? Give the measure's value and one reason.



ANSWER _____

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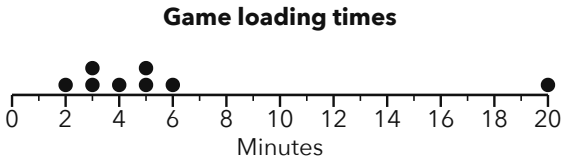
6 A student recorded 5, 5, 7, 8, 10, and 13 minutes of jump-rope practice. Report the sample size and range.

ANSWER _____

_____

APPLY IT Show your work

1 The dot plot shows how long students waited for a game to load, measured to the nearest minute. Report the sample size, mean, and median. Which measure of center better describes a typical wait? Explain.



ANSWER _____

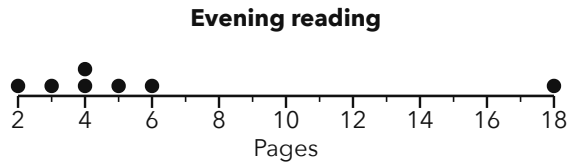
2 A student timed dance practice to the nearest minute on seven days. The times were 4, 6, 6, 8, 10, 10, and 12 minutes. Report the sample size, IQR, and mode.

WORK SPACE

ANSWER _____

CHALLENGE One step up

The dot plot shows pages read on seven evenings. One evening included a long bus ride, so the student removes the 18-page evening from the data. Find the mean and IQR before and after removing it. Before the removal, which better describes a typical evening, the mean or median? Explain.



WORK SPACE AND ANSWER

ANSWER KEY

Spot the Spread

GRADE 6 · 6.SP.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The dot plot shows points earned in five rounds of a game. Find the median and mode.	**Median: 4 points; mode: 4 points.**
2	The dot plot shows minutes spent on six puzzles. Find the median and IQR.	**Median: 8 minutes; IQR: 6 minutes.**
3	A student practiced a song for 1, 3, 5, 7, and 9 minutes over five days. Find the mean and range.	**Mean: 5 minutes; range: 8 minutes.**
4	Eight paper planes flew 4, 6, 8, 10, 12, 14, 16, and 18 feet. Find the IQR of their flight distances.	**8 feet.**
5	The dot plot shows minutes students waited for a bus. Which measure, mean or median, better describes a typical wait? Give the measure's value and one reason.	**Median: 3 minutes. The 17-minute wait is much longer than the others and pulls the mean up.**
6	A student recorded 5, 5, 7, 8, 10, and 13 minutes of jump-rope practice. Report the sample size and range.	**Sample size: 6 practice sessions; range: 8 minutes.**

PART 2 · APPLY IT

1. **Sample size: 8 students; mean: 6 minutes; median: 4.5 minutes. The median better describes a typical wait because the 20-minute wait pulls the mean up.** The times total 48 minutes, so the mean is 48 ÷ 8 = 6 minutes. The middle two times are 4 and 5 minutes, so the median is 4.5 minutes.
2. **Sample size: 7 days; IQR: 4 minutes; modes: 6 and 10 minutes.** The lower half has median 6 and the upper half has median 10, so the IQR is 10 - 6 = 4 minutes. Both 6 and 10 occur twice, more often than any other time.

CHALLENGE

Before: mean 6 pages, IQR 3 pages. After: mean 4 pages, IQR 2 pages. Before removal, the median of 4 pages better describes a typical evening because the 18-page evening pulls the mean up.

For explanations, accept wording that identifies the unusually high value and its effect on the mean. Use the median of each half to find quartiles, excluding the middle value when the sample size is odd.