LESSON MAKER PRO

Data Detectives

Find the center, spread, and shape.

GRADE 6 · MT.6.SP.2

MT.6.SP.2 "Understand that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape..."

NAME _____ DATE _____

READ THE DISTRIBUTION

The median is the middle value when data are in order. The range is the greatest value minus the least value. A dot plot also shows shape: dots may balance around the center or stretch farther to one side.

WORKED EXAMPLE

Use the dot plot to find the median and range. Describe its shape.



1. Read the values in order: 21, 23, 25, 27, 29.
2. The middle value is 25.
3. Range: 29 - 21 = 8. The dots balance around 25.

Answer: Median: 25 minutes; range: 8 minutes; shape: symmetric.

PRACTICE 4 problems

1 Find the median: 2, 4, 6, 8, 10.

ANSWER _____

2 Find the range: 1, 3, 3, 5, 12.

ANSWER _____

3 Find the median and range: 4, 4, 7, 10, 15, 15.

ANSWER _____

_____

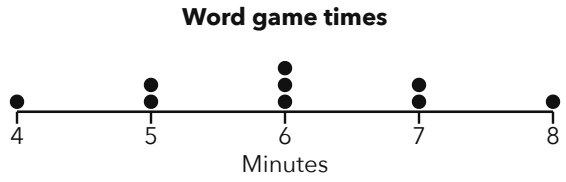
4 Find the median and range: 0, 2, 2, 3, 3, 3, 6.

ANSWER _____

_____

APPLY IT Show your work

1 At a school event about Montana Indigenous languages, students timed a word game. Use the dot plot to find the median and range. Describe its shape.



ANSWER _____

2 During a Montana town's trail cleanup, teams counted pieces of litter. Use the dot plot to find the median and range. Which side has the longer tail?



ANSWER _____

CHALLENGE One step up

Two classes timed a short walk in minutes. Class A: 2, 3, 4, 5, 6. Class B: 2, 3, 4, 5, 14. Find each median and range. Explain what the medians alone miss.

WORK SPACE AND ANSWER

ANSWER KEY # Data Detectives

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the median: 2, 4, 6, 8, 10.	**6**
2	Find the range: 1, 3, 3, 5, 12.	**11**
3	Find the median and range: 4, 4, 7, 10, 15, 15.	**Median: 8.5; range: 11.**
4	Find the median and range: 0, 2, 2, 3, 3, 3, 6.	**Median: 3; range: 6.**

PART 2 · APPLY IT

1. **Median: 6 minutes; range: 4 minutes; shape: symmetric.** The fifth of nine values is 6. The range is 8 - 4 = 4, and the dots balance around 6.
2. **Median: 3 pieces; range: 10 pieces; longer tail: right.** The fourth of seven values is 3, and 11 - 1 = 10. The value 11 stretches the distribution farther right.

CHALLENGE

Both medians are 4 minutes. Class A's range is 4 minutes, and Class B's range is 12 minutes. The medians do not show that Class B's times are more spread out.

Accept "balanced" for symmetric and "stretches farther right" for a longer right tail. Units should match each context.