

Data Detective

Find the number that tells the story.

GRADE 4 • MA.4.DP.1.2

MA.4.DP.1.2 "Determine the mode, median or range to interpret numerical data including fractional values, represented with tables, stem-and-leaf plots or line plots."

NAME _____

DATE _____

FIND THE CLUES

The mode is the value that appears most often. Put values in order to find the median, which is the middle value, or average the two middle values when there is an even number of values. To find the range, subtract the least value from the greatest value.

WORKED EXAMPLE

Find the median of 18, 10, 16, and 12.

1. Put the values in order: 10, 12, 16, 18.
2. The two middle values are 12 and 16.
3. Add the middle values: $12 + 16 = 28$.
4. Divide by 2: $28 / 2 = 14$.

Answer: Median: 14

PRACTICE 6 problems

- 1** Find the mode: 6, 9, 6, 11, 13, 6.

ANSWER _____

- 2** Use the stem-and-leaf plot to find the median. Key: 2 | 1 means 21 2 | 1 2 6 7 9

ANSWER _____

- 3** Use the line plot to find the mode. Length in miles $1\frac{1}{4}$ | X $1\frac{1}{2}$ | XXX $3\frac{1}{4}$ | X 1 | XX

ANSWER _____

- 4** The table shows points scored in four games. Find the range. Game Points A 19 B 22 C 27 D 25

ANSWER _____

- 5** Find the median: $1\frac{1}{4}$, $3\frac{1}{4}$, $1\frac{1}{2}$, 1 $1\frac{1}{4}$.

ANSWER _____

- 6** Use the stem-and-leaf plot to find the mode. Key: 3 | 1 means 31 3 | 1 2 2 5 7

ANSWER _____

APPLY IT Show your work

- 1** A game design club recorded how long six students worked on a game. The times were $\frac{1}{2}$ hour, $\frac{3}{4}$ hour, 1 hour, $1\frac{1}{4}$ hours, $1\frac{1}{2}$ hours, and $1\frac{3}{4}$ hours. What was the median work time?

WORK SPACE

ANSWER _____

- 2** The table shows the number of trading cards four friends brought to school. What is the range?
- | Friend | Cards |
|--------|-------|
| Jada | 23 |
| Noah | 31 |
| Mia | 28 |
| Eli | 26 |

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Use the line plot to find all modes, the median, and the range. Explain how you found the median.

Distance in miles $\frac{1}{4}$ | X $\frac{1}{2}$ | XX $\frac{3}{4}$ | X 1 | XX $1\frac{1}{4}$ | X

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find the mode: 6, 9, 6, 11, 13, 6.	6
2	Use the stem-and-leaf plot to find the median. Key: 2 1 means 21 2 1 2 6 7 9	26
3	Use the line plot to find the mode. Length in miles $\frac{1}{4}$ X $\frac{1}{2}$ XXX $\frac{3}{4}$ X 1 XX	$\frac{1}{2}$
4	The table shows points scored in four games. Find the range. Game Points A 19 B 22 C 27 D 25	8
5	Find the median: $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{2}$, $1\frac{1}{4}$.	$\frac{5}{8}$
6	Use the stem-and-leaf plot to find the mode. Key: 3 1 means 31 3 1 2 2 5 7	32

PART 2 • APPLY IT

- 1 $1\frac{1}{8}$ hours** The times are already in order. Average the two middle times, 1 hour and $1\frac{1}{4}$ hours, to get $1\frac{1}{8}$ hours.
- 8 cards** The greatest number is 31 and the least number is 23. Subtract 23 from 31.

CHALLENGE

Modes: $\frac{1}{2}$ and 1. Median: $\frac{3}{4}$. Range: 1. There are 7 values in order, so the fourth value, $\frac{3}{4}$, is the median.

Accept equivalent fraction forms, such as $1\frac{1}{8}$ or $\frac{9}{8}$. For the challenge, accept both modes in either order and an explanation that identifies the fourth value as the middle of seven values.