LESSON MAKER PRO

Data Detectives

Find the center, spread, and surprises in data.

GRADE 6 · NY-6.SP.5.c

NY-6.SP.5.c "Calculate range and measures of center, as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered."

NAME _____ DATE _____

SPOT THE PATTERN

The mean is the sum of all values divided by the number of values. Put values in order to find the median, and subtract the least value from the greatest value to find the range. Describe where most values cluster, then notice any value far from that cluster.

WORKED EXAMPLE

Find the mean, median, and range of 31, 33, 35, 37, 39.

1. Add the values: 31 + 33 + 35 + 37 + 39 = 175.
2. Divide by the number of values: 175 / 5 = 35.
3. The middle value is 35, and 39 - 31 = 8.

Answer: Mean: 35; median: 35; range: 8

PRACTICE 6 problems

1 The numbers of laps five students ran are 13, 15, 17, 19, 21. Find the median and range.

ANSWER _____

2 Find the mean of 9, 12, 15, 18.

ANSWER _____

3 Find the mode and range of 22, 22, 24, 26, 28.

ANSWER _____

4 A plant's heights in centimeters are 40, 41, 42, 43, 44, 70. Find the median. Then describe the overall pattern and the striking deviation.

ANSWER _____

5 The numbers of goals scored in five games are 1, 2, 2, 3, 19. Find the mean and median. Which measure of center better describes a typical game? Explain.

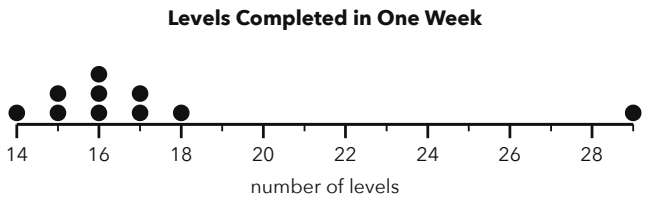
ANSWER _____

6 Find the mean, median, and range of 24, 26, 28, 30, 32.

ANSWER _____

APPLY IT Show your work

1 The dot plot shows the number of levels completed by members of a gaming club during one week. Find the mean, median, and range. Describe the overall pattern and any striking deviation in context.



ANSWER _____

2 The table shows how many minutes six students needed to finish the same logic puzzle. Find the mean, median, and range. Describe the overall pattern and any striking deviation in context.

MINUTES TO FINISH A LOGIC PUZZLE

Student	Minutes
Ari	12
Bo	13
Cleo	14
Devin	15
Emi	16
Fran	32

ANSWER _____

CHALLENGE One step up

Five students recorded the number of minutes they practiced an instrument: 12, 13, 14, 15, and x. The mean was 18 minutes. Find x. Then find the median and range, and explain the overall pattern and striking deviation.

WORK SPACE AND ANSWER

ANSWER KEY

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The numbers of laps five students ran are 13, 15, 17, 19, 21. Find the median and range.	**Median: 17; range: 8**
2	Find the mean of 9, 12, 15, 18.	**13.5**
3	Find the mode and range of 22, 22, 24, 26, 28.	**Mode: 22; range: 6**
4	A plant's heights in centimeters are 40, 41, 42, 43, 44, 70. Find the median. Then describe the overall pattern and the striking deviation.	**Median: 42.5. Most heights are from 40 to 44 cm; 70 cm is a striking high deviation.**
5	The numbers of goals scored in five games are 1, 2, 2, 3, 19. Find the mean and median. Which measure of center better describes a typical game? Explain.	**Mean: 5.4; median: 2. The median better describes a typical game because 19 is much higher than the other values.**
6	Find the mean, median, and range of 24, 26, 28, 30, 32.	**Mean: 28; median: 28; range: 8**

PART 2 · APPLY IT

1. **Mean: 17.3 levels; median: 16 levels; range: 15 levels. Most club members completed 14 to 18 levels, and 29 levels is a striking high deviation.** Add the 10 values to get 173, then divide by 10. The middle two ordered values are both 16, and 29 is far above the cluster from 14 to 18.
2. **Mean: 17 minutes; median: 14.5 minutes; range: 20 minutes. Most students finished in 12 to 16 minutes, and 32 minutes is a striking high deviation.** The total time is 102 minutes, and 102 / 6 = 17. The middle values are 14 and 15, while 32 is far above the other times.

CHALLENGE

x = 36. Median: 14; range: 24. The times from 12 to 15 minutes cluster together, and 36 minutes is a striking high deviation.

Accept equivalent forms for decimal answers, such as 13 1/2 for 13.5. Accept equivalent pattern descriptions that identify the correct cluster and the high deviation in context.