LESSON MAKER PRO

Which Center Fits?

Find a center that tells the right story about the data.

GRADE 6 · 6.SP.5d

6.SP.5d "Summarize numerical data sets in relation to their real-world context. Justify the choice of measures of center (median, mode, or mean) based on the shape of the data distribution and the context in which the data was gathered."

NAME _____ DATE _____

CHOOSE A USEFUL CENTER

The mean shares the total equally, the median is the middle value when the data are ordered, and the mode is the value that appears most often. Use the mean for fairly balanced data, the median when an unusually high or low value pulls the mean, and the mode when the most common value matters.

WORKED EXAMPLE

The dot plot shows how many minutes five students read. Which measure best describes a typical reading time? Show how you know.

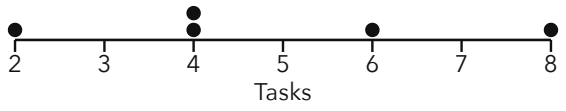


1. Read the values in order: 11, 13, 15, 17, 31.
2. The middle value is 15, so the median is 15 minutes.
3. The mean is (11 + 13 + 15 + 17 + 31) / 5 = 87 / 5 = 17.4 minutes.
4. The unusually long time of 31 minutes pulls the mean up, so choose the median.

Answer: Median, 15 minutes.

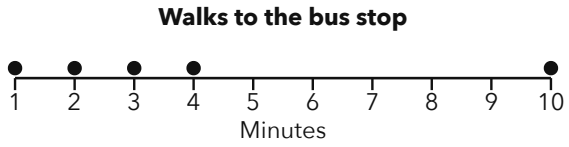
PRACTICE 6 problems

1 The dot plot shows how many tasks students finished at a robot club meeting. What is the mode?



ANSWER _____

2 The dot plot shows students' walks to a bus stop. Which is better for describing a typical walk, the mean or the median? Find its value and explain your choice.



ANSWER _____

3 Five students practiced a dance for 4, 6, 8, 10, and 12 minutes. Find the mean. Why is it a useful center for these times?

ANSWER _____

4 Seven players earned 0, 0, 1, 1, 1, 2, and 2 extra lives in a game. Which measure tells you the most common number earned? Give the measure and its value.

ANSWER _____

5 The numbers of puzzles five classmates solved were 2, 2, 4, 4, and 8. Find both the mean and the median.

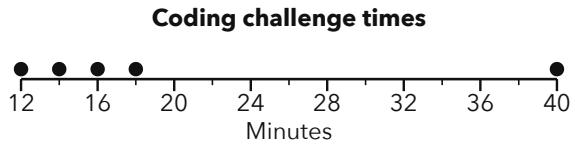
ANSWER _____

6 A music club recorded these requested playlist lengths in songs: 6, 6, 6, 8, 9, 10. Which measure should the club use to choose the most requested length? Give the measure and the length.

ANSWER _____

APPLY IT Show your work

1 Five students timed a coding challenge. The dot plot shows their times. Find the mean and median. Which better describes a typical student's time? Explain.



ANSWER _____

2 A student council asks six students how long a mini-game round should last. Their choices, in minutes, are 3, 3, 3, 6, 6, and 9. Which measure should the council use to pick the most requested length? Find it and explain why the mean would not answer the question.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two groups tested a new school puzzle. The table shows each student's time to solve it. Find the mean and median for each group. Choose a measure to describe a typical time for each group, then explain why comparing only the means could give a different impression of which group was faster.

PUZZLE-SOLVING TIMES IN MINUTES

Group A	Group B
2	4
4	5
4	6
6	7
24	8

WORK SPACE AND ANSWER

ANSWER KEY

Which Center Fits?

GRADE 6 · 6.SP.5d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The dot plot shows how many tasks students finished at a robot club meeting. What is the mode?	**4 tasks**
2	The dot plot shows students' walks to a bus stop. Which is better for describing a typical walk, the mean or the median? Find its value and explain your choice.	**Median, 3 minutes. The 10-minute walk pulls the mean up.**
3	Five students practiced a dance for 4, 6, 8, 10, and 12 minutes. Find the mean. Why is it a useful center for these times?	**The mean is (4 + 6 + 8 + 10 + 12) / 5 = 8 minutes. The times are evenly spread around 8, with no unusually high or low time.**
4	Seven players earned 0, 0, 1, 1, 1, 2, and 2 extra lives in a game. Which measure tells you the most common number earned? Give the measure and its value.	**Mode, 1 extra life.**
5	The numbers of puzzles five classmates solved were 2, 2, 4, 4, and 8. Find both the mean and the median.	**Mean: (2 + 2 + 4 + 4 + 8) / 5 = 4 puzzles. Median: 4 puzzles.**
6	A music club recorded these requested playlist lengths in songs: 6, 6, 6, 8, 9, 10. Which measure should the club use to choose the most requested length? Give the measure and the length.	**Mode, 6 songs. It is the most requested length.**

PART 2 · APPLY IT

1. **Mean: 20 minutes. Median: 16 minutes. The median better describes a typical time because the 40-minute result pulls the mean up.** The times total 100 minutes, so the mean is 100 / 5 = 20 minutes. The middle time is 16 minutes.
2. **Use the mode, 3 minutes. The mean is 5 minutes, but no student requested a 5-minute round.** The most frequent choice is 3 minutes. The choices total 30 minutes, so the mean is 30 / 6 = 5 minutes.

CHALLENGE

Group A has a mean of 8 minutes and a median of 4 minutes. Its median is more useful because 24 minutes pulls its mean up. Group B has a mean and median of 6 minutes; its mean is useful because its times are evenly spread. Comparing only the means makes Group B seem faster, but the chosen centers give Group A a shorter typical time.

Accept explanations that identify an unusually high value as pulling the mean upward. For Group B in the challenge, accept the median instead of the mean if the student notes that both equal 6 minutes.