

Center or Spread?

Choose statistics that fit the data.

GRADE 7 • MA.7.DP.1.1

MA.7.DP.1.1 "Determine an appropriate measure of center or measure of variation to summarize numerical data, represented numerically or graphically, taking into consideration the context and any outliers."

NAME _____

DATE _____

PICK THE BEST SUMMARY

Use the mean when data values are fairly balanced and no value is far from the rest. Use the median when an outlier could pull the mean. To describe spread, find the range by subtracting the lowest value from the highest value.

WORKED EXAMPLE

Choose a measure of center for the data: 41, 43, 45.

1. Order the data: 41, 43, 45.
2. No value is far from the others, so use the mean.
3. Add the values: $41 + 43 + 45 = 129$.
4. Divide by 3: $129 \div 3 = 43$.

Answer: The mean is 43.

PRACTICE 6 problems

- 1** Choose a measure of center and find it for 10, 12, 14, 16, 18.

ANSWER _____

- 2** A data set is 2, 21, 22, 23, 24. Choose a measure of center that is not strongly affected by the low outlier, then find it.

ANSWER _____

- 3** Find the range of 26, 29, 31, 35.

ANSWER _____

- 4** A table shows scores: 30 occurred 1 time, 32 occurred 2 times, and 34 occurred 1 time. Choose a measure of center and find it.

ANSWER _____

- 5** Set A: 50, 52, 53, 55. Set B: 47, 51, 54, 58. Which set has less variation? Use the ranges.

ANSWER _____

- 6** A student recorded waiting times in seconds: 60, 61, 62, 63, 180. What measure of center best describes a typical waiting time? Find it.

ANSWER _____

APPLY IT Show your work

- 1** Mia recorded the number of minutes she practiced guitar on six days: 25, 26, 27, 28, 29, 90. Which measure of center best describes a typical practice time? Find it.

WORK SPACE

ANSWER _____

- 2** Two esports teams recorded their match scores. Team Red scored 71, 74, 76, 79. Team Blue scored 68, 72, 77, 83. Which team had more consistent scores? Use a measure of variation.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Student A and Student B track their daily reading minutes. Student A: 32, 34, 36, 38, 40. Student B: 31, 33, 35, 36, 80. Choose an appropriate measure of center for each student. Then decide which student has the more consistent reading routine, using ranges to explain.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Choose a measure of center and find it for 10, 12, 14, 16, 18.	Mean = 14
2	A data set is 2, 21, 22, 23, 24. Choose a measure of center that is not strongly affected by the low outlier, then find it.	Median = 22
3	Find the range of 26, 29, 31, 35.	Range = 9
4	A table shows scores: 30 occurred 1 time, 32 occurred 2 times, and 34 occurred 1 time. Choose a measure of center and find it.	Mean = 32
5	Set A: 50, 52, 53, 55. Set B: 47, 51, 54, 58. Which set has less variation? Use the ranges.	Set A has less variation. Its range is 5, and Set B's range is 11.
6	A student recorded waiting times in seconds: 60, 61, 62, 63, 180. What measure of center best describes a typical waiting time? Find it.	Median = 62 seconds

PART 2 • APPLY IT

- Median = 27.5 minutes** The 90-minute practice session is an outlier, so use the median. The two middle values are 27 and 28, and their average is 27.5.
- Team Red had more consistent scores. Team Red's range is 8, and Team Blue's range is 15.** Find each range by subtracting the lowest score from the highest score. The smaller range shows more consistent scores.

CHALLENGE

Student A: mean = 36 minutes. Student B: median = 35 minutes because 80 is an outlier. Student A has the more consistent routine because Student A's range is 8 and Student B's range is 49.

Accept equivalent wording for mean, median, and range. For items that ask students to choose a measure, require both the correct statistic and its calculated value.