Center Choice Sort

Choose the summary that fits the data.

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 _____

MEAN IS BEST

Choose the mean when the numbers are fairly close together and none is much higher or lower than the rest. The mean uses every number.

A jar holds 16, 17, 18, 19, and 20 buttons. Its mean is a sensible summary.

MEDIAN IS BEST

Choose the median when one or more numbers are far from the rest. The middle number is less affected by unusual numbers.

A pond has fish measuring 7, 8, 8, 9, and 60 centimeters. Its median describes the group more fairly.

1 SORT

8 items

For each situation, circle MEAN or MEDIAN, then choose two items and explain what in the data made that measure appropriate.

1.	Daily high temperatures are 68, 70, 71, 73, 74, and 75°F. Summarize a typical temperature.	MEAN MEDIAN
2.	Six club members read 8, 9, 10, 10, 11, and 12 books. Summarize typical reading.	MEAN MEDIAN
3.	Five students use 3, 4, 4, 5, and 42 GB of phone data each month. Summarize a usual student's use.	MEAN MEDIAN
4.	Rice bags weigh 4.9, 5.0, 5.0, 5.0, and 5.1 kg. Find an average bag weight.	MEAN MEDIAN
5.	Home sale prices are $180,000, $195,000, $205,000, $210,000, and $1,800,000. Describe a usual sale price.	MEAN MEDIAN
6.	Wait times are 6, 7, 8, 8, 9, and 55 minutes. Describe a usual wait.	MEAN MEDIAN
7.	A runner completes 12, 13, 13, 14, 15, and 15 laps on six days. Summarize a typical day.	MEAN MEDIAN
8.	A basketball player scores 11, 12, 13, 14, 14, 15, and 16 points in seven games. Describe typical points.	MEAN MEDIAN

2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new data situation for MEAN and one new data situation for MEDIAN. Include enough numbers to show why each measure fits.

MEAN _____

MEDIAN _____

CHALLENGE

Practice times are 18, 19, 20, 20, 21, 22, 23, and 45 minutes. Choose the better measure of center, find it, and explain your choice.

ANSWER KEY

Center Choice Sort

GRADE 7 · MA.7.DP.1.1

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Daily high temperatures are 68, 70, 71, 73, 74, and 75°F. Summarize a typical temperature.	**MEAN**	The temperatures are close together, with no extreme temperature.
2	Six club members read 8, 9, 10, 10, 11, and 12 books. Summarize typical reading.	**MEAN**	The book totals are close together, with no outlier.
3	Five students use 3, 4, 4, 5, and 42 GB of phone data each month. Summarize a usual student's use.	**MEDIAN**	42 GB is much higher than the other amounts and would pull the mean up.
4	Rice bags weigh 4.9, 5.0, 5.0, 5.0, and 5.1 kg. Find an average bag weight.	**MEAN**	The weights are tightly grouped, so every weight can be included.
5	Home sale prices are $180,000, $195,000, $205,000, $210,000, and $1,800,000. Describe a usual sale price.	**MEDIAN**	$1,800,000 is far above the other prices and would raise the mean.
6	Wait times are 6, 7, 8, 8, 9, and 55 minutes. Describe a usual wait.	**MEDIAN**	55 minutes is an outlier, so the median better represents most waits.
7	A runner completes 12, 13, 13, 14, 15, and 15 laps on six days. Summarize a typical day.	**MEAN**	The lap totals are close together, with no extreme total.
8	A basketball player scores 11, 12, 13, 14, 14, 15, and 16 points in seven games. Describe typical points.	**MEAN**	The scores are close together, so the mean is representative.

PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **MEAN**: A science group measures plant heights of 14, 15, 16, 17, and 18 cm. Use the mean because the measurements are close together.
- **MEDIAN**: Five movie tickets cost $9, $10, $10, $11, and $75. Use the median because $75 is much higher than the other prices.

Challenge: Use the median. The 45-minute time is an outlier, so it would pull the mean upward. The median is 20.5 minutes.

Sort answers: 1 MEAN, 2 MEAN, 3 MEDIAN, 4 MEAN, 5 MEDIAN, 6 MEDIAN, 7 MEAN, 8 MEAN. For the two explanations, look for identification of clustered data for mean or an extreme number for median.