

Name: _____

Measures of Center and Variability

Measures of center summarize all data points with a single number. Measures of variability summarize how much data points vary from one another.

Write **C** (center) or **V** (variability) to identify each statistical measure.

_____ median

_____ MAD
mean absolute deviation

_____ mean

_____ range

_____ mode

_____ IQR
interquartile range

Read the situation and answer the questions.

Avyaan and several other students in his homeroom play in the middle school orchestra.



How many students provided data in total? _____

Identify or calculate the measures of center and variability. Show your work.

Mode.

Median.

Range.

IQR.

Name: _____

Measures of Center and Variability

Mean.

MAD.



Avyaan's math teacher explains that statisticians usually try to minimize the effects of outliers by excluding them when analyzing data. Avyaan wants to repeat his calculations after excluding the responses of his classmates who practiced 180 and 240 minutes.

Would the mode change? _____

How would the other measures of center and variability change in general?

Circle which would change more.

median **or** mean

range **or** IQR

ANSWER KEY

Measures of Center and Variability

Measures of center summarize all data points with a single number. Measures of variability summarize how much data points vary from one another.

Write **C** (center) or **V** (variability) to identify each statistical measure.

 C median

 V MAD
mean absolute deviation

 C mean

 V range

 C mode

 V IQR

Preview

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$$240 - 0 = 240$$

 240

$$90 - 40 = 50$$

Q2 = 50

Q3 = 90

 50

ANSWER KEY

Measures of Center and Variability

Mean.

$$\frac{0 + 30 + 40 + 40 + 40 + 60 + 60 + 90 + 180 + 240}{10} = \frac{780}{10} = 78$$

MAD.

$ 78 - 0 = 78$	$ 78 - 60 = 18$
$ 78 - 30 = 48$	$ 78 - 60 = 18$
$ 78 - 40 = 38$	$ 78 - 90 = 12$
$ 78 - 40 = 38$	$ 78 - 180 = 102$
$ 78 - 40 = 38$	$ 78 - 240 = 162$

$$78 + 48 + 38 + 38 + 38 + 18 + 18 + 12 + 102 + 162 = 552$$

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Circle which would change more.

median or **mean**

range or IQR