

Lesson 9-6: Variability of Data

SWBAT: Find and use measures of variability to describe and compare data sets.

3 ways to describe data:

1. Its center – mean, median, mode.
2. Its spread (variability) – range, interquartile range and M.A.D.
3. Its shape

Measures of Variability:

How data is _____. We have gone over one example already, the _____!

- Mean Absolute Deviation (MAD) – _____
_____.
- You have to find the mean of the data. Then you find _____ each number is from the mean. Last, you find _____ of that information.

Ex:

Data:	17, 22, 16, 45	First, find the mean:
Mean:	25, 25, 25, 25	Now, find the distance between them
Distance:	8, 3, 9, 20	Last, find the new mean of this distance

Mean Absolute Deviation = 10. This means that the average distance between the data points and the mean is 10. The smaller the mad is, the more close your data points are. The larger your mad is, the more spread out the data points are.

a. Find the MAD for :
1, 3, 3, 5, 5, 2, 1, 4

b. Find the MAD for:
10, 12, 9, 14, 15, 11, 6

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Interquartile Range:

Measures the _____ of the data. You need to find the upper quartile, the lower quartile and then _____.

- Remember, the quartiles are the medians between the lower and middle, and the upper and middle.
- Also, do not include the median when finding the quartiles.

Ex:

Find the IQR for this set of data:

16, 17, 18, 19, 22, 22, 24, 27, 30, 45

Median =

L.Q. =

U.Q. =

Inter quartile range =

Find the IQR for each set of data:

a. 30, 28, 20, 24, 25, 36

b. 10, 8, 8, 7, 5, 9, 7, 9, 12