Mean Absolute Deviation

Mean Absolute Deviation, or MAD, is a number that measures the variability of a data set, or how spread out the data values are.



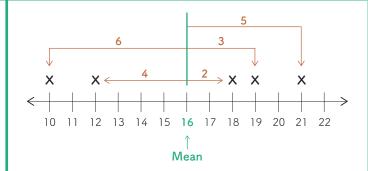
Let's try it! Find the MAD for the following data set: 10, 12, 18, 19, 21



First, find the mean of the data set. Add all of the values, and then divide that sum by the number of values in the data set.

Mean =
$$\frac{10 + 12 + 18 + 19 + 21}{5} = \frac{80}{5} = 16$$

Next, calculate the distance each data point is from the mean. To find each distance, you can use a number line.



Last, find the mean of those distances. Add all of the distances, and then divide that sum by the number of values in the data set.

$$MAD = \frac{6 + 4 + 2 + 3 + 5}{5} = \frac{20}{5} = 4$$

Find the **mean** and **MAD** for each data set. Show your work.

2, 2, 3, 5, 8

4, 5, 9, 11, 26

Mean:

Mean:

MAD:

MAD:

Mean Absolute Deviation



Keep going! Find the mean and MAD for each data set. Show your work.

11, 14, 19, 23, 33	26, 28, 31, 32, 39, 42
Mean:	Mean:
MAD:	MAD:
17, 17, 18, 18, 20, 22, 23, 25	29, 47, 64, 78, 93, 93, 97, 99
Mean:	Mean:
MAD:	MAD:
Challenge yourself! Why do you that has a larger MAD than the other data sets of	think the data set in the last problem on this page?