Mean Absolute Deviation:

The mean absolute deviation is the deviation of each point, in a dataset, from the mean; thus, it shows the variability within the dataset. Given that this function calculates a distance from the mean, it is not possible for the MAD to be negative, however, any number of data points in the data set can be negative. The equation for the mean absolute deviation is given below:

Diagram

Description automatically generated

Source: <https://en.wikipedia.org/wiki/Average_absolute_deviation>

Where:

n: The number of elements in the dataset.

xi­: The i-th element in the dataset.

m(X): The mean of the dataset.

A picture containing box and whisker chart

Description automatically generated

Source: <https://www.mathsisfun.com/data/mean-deviation.html>

Sources:

<https://en.wikipedia.org/wiki/Average_absolute_deviation>

<https://www.khanacademy.org/math/statistics-probability/summarizing-quantitative-data/other-measures-of-spread/a/mean-absolute-deviation-mad-review>

<https://www.mathsisfun.com/data/mean-deviation.html>

**Glossary:**

**Mean**: A value that lies within a range of values and is computed according to a prescribed law: such as

**(1):**[ARITHMETIC MEAN](https://www.merriam-webster.com/dictionary/arithmetic%20mean)

**(2):**[EXPECTED VALUE](https://www.merriam-webster.com/dictionary/expected%20value)

* Source: <https://www.merriam-webster.com/dictionary/mean>

**Dataset**: Collection of data maintained in an organized form.

* Source: <https://explorable.com/statistical-data-sets>

**Data Point**: A single fact or piece of information. Can be an element of a data set.

* Source: https://www.dictionary.com/browse/data-point