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Mean Absolute Deviation (MAD)

Mean: the average of the set of data.

Absolute: The absolute value (how far the # is from zero, ALWAYS positive.)

Deviation: the distance

Therefore:

MAD: the mean of the distance of each value in a data set from their mean.

(What does that mean?? you find the mean twice)

Step 1: Find the mean of all the values in the data set.

A. Add all the #s.

B. Divide by the amount of #s in the data set.

Data Set:

(15, 6, 16, 11, 8, 7, 3, 6)

$$\text{Mean} = \frac{72}{8} = 9$$

Step 2: Find the distance of each value from that mean.

(Subtract the mean from each value, & find the absolute value)

Value x	Distance $ x - \mu $	Total
3	$3 - 9$	+6
6	$6 - 9$	+3
6	$6 - 9$	+3
7	$7 - 9$	+2
8	$8 - 9$	+1
11	$11 - 9$	2
15	$15 - 9$	6
16	$16 - 9$	7

Step 3: Find the mean of the distances found in Step 2.

A. Add all the #s.

B. Divide by the amount of #s in the data set.

New Data Set:

(6, 3, 3, 2, 1, 2, 6, 7)

30/8

$$\text{MAD} = 3.75$$