Mean absolute deviation (MAD) review (article) | Khan Academy

Author	
Link	https://www.khanacademy.org/math/statistics-probability/summarizing-quantitative-data/other-measures-of-spread/a/mean-absolute-deviation-mad-review
Önemli Link	https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-data-statistics/cc-6-mad/v/mean-absolute-deviation
Subject	

Mean absolute deviation

The mean absolute deviation of a dataset is the average distance between each data point and the mean. It gives us an idea about the variability in a dataset.

Here's how to calculate the mean absolute deviation.

Step 1: Calculate the mean.

Step 2: Calculate how far away each data point is from the mean using positive distances. These are called absolute deviations.

Step 3: Add those deviations together.

Step 4: Divide the sum by the number of data points.

Following these steps in the example below is probably the best way to learn about mean absolute deviation, but here is a more formal way to write the steps in a formula:

$$\text{MAD} = \frac{\sum |x_i - \bar{x}|}{n}$$

Example

Erica enjoys posting pictures of her cat online. Here's how many "likes" the past 6 pictures each received:

10, 15, 15, 17, 18, 21

Find the mean absolute deviation.

Step 1: Calculate the mean.

The sum of the data is 96 total "likes" and there are 6 pictures.

mean=966=16

The mean is 16.

Step 2: Calculate the distance between each data point and the mean.

Data point	Distance from mean
10	$\|10-16\|=6$
15	$\|15-16\|=1$
15	$\|15-16\|=1$
17	$\|17-16\|=1$
18	$\|18-16\|=2$
21	$\|21-16\|=5$

Step 3: Add the distances together.

6+1+1+1+2+5=16

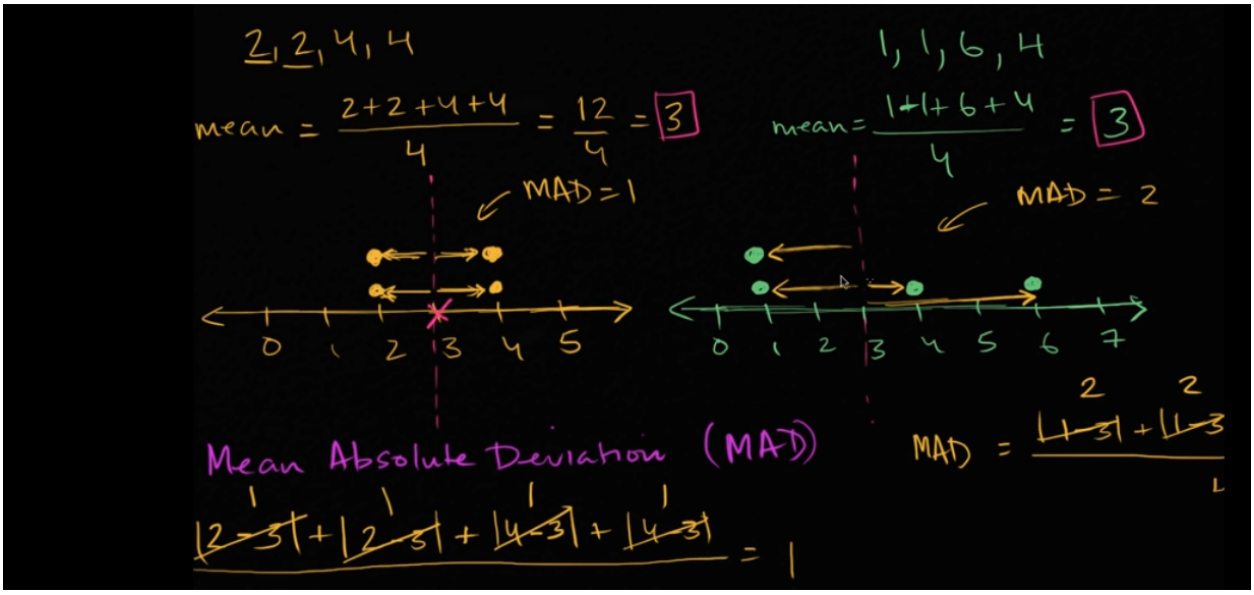
Step 4: Divide the sum by the number of data points.

$$\text{MAD} = \frac{16}{6} \approx 2.67 \text{ likes}$$

On average, each picture was about 3 likes away from the mean.

Bu videoda daha detaylı açıklanmış.

MAD hesabı yaparak datanın ne kadar dağıldığını anlıyoruz.



İlkinde sonuç 1 ikincisinde 2 çıktı. İkinci grafikteki data daha çok dağılmış.