

MEAN DEVIATION

A measure that tells us how far the data is from the mean.

$|3-10| = 7$

Absolute value: the positive value of any number

Steps:

1. Calculate the mean (average)
2. Calculate the deviation (difference) between the mean and each data value.
3. Take the absolute value of each deviation.
4. Add the deviations and divide by the number of data.

The lower the value of the mean deviation, the more homogeneous the distribution of data values; that is the closer they are to the mean.

Apr 18-8:52 AM

The marks obtained by a group of ten students on an English exam are:
60, 70, 65, 80, 85, 70, 65, 80, 50, 95.

Mean = 72 ✓

$60 - 72 = -12 \Rightarrow 12$
 $70 - 72 = -2 \Rightarrow 2$
 $65 - 72 = -7 \Rightarrow 7$
 $80 - 72 = 8 \Rightarrow 8$
 $85 - 72 = 13 \Rightarrow 13$
 $70 - 72 = -2 \Rightarrow 2$
 $65 - 72 = -7 \Rightarrow 7$
 $80 - 72 = 8 \Rightarrow 8$
 $50 - 72 = -22 \Rightarrow 22$
 $95 - 72 = 23 \Rightarrow 23$

add
 $\frac{124}{6} = 20.67$

Apr 18-9:50 AM

i	Classes	C _i	N _i	N _i C _i	N _i C _i - 72
1	0-20	10	6	60	$10 \cdot 12 = 120$
2	20-40	30	14	420	$10 \cdot 2 = 20$
3	40-60	50	18	900	$10 \cdot 7 = 70$
4	60-80	70	12	840	$10 \cdot 8 = 80$
5	80-100	90	8	720	$10 \cdot 13 = 130$
6	100-120	110	2	220	$10 \cdot 22 = 220$
Total			60	3160	

$\frac{3160}{60} = 52.67 \Rightarrow 53 \rightarrow 21$

Apr 18-9:56 AM

A

B

0 | 5 5 5 8 → 5, 5, 5, 8
 1 | 0 0 2 5 5 5 8 8 → 10, 10, 12, 15, 15, 18
 2 | 0 0 4 5 → 20, 20, 24, 25
 3 | 0 0 5 → 30, 30, 35
 4 | 0 → 40

The marks obtained by a group of ten students on an English exam are:
60, 70, 65, 80, 85, 70, 65, 80, 50, 95.

Apr 18-9:56 AM

B

A

$(10, 12) 20$ | 1 | 0 2 2 3 (10, 12, 12, 13)
 $(23, 24) 4$ | 3 | 3 3 (23, 23)
 6 | 3 | 5
 2 | 1 | 4 | 0

20, 30, 31, 32, 43

$\begin{array}{r} 40.4 : \dots \\ 0 \\ 012 \\ 3 \end{array}$

Apr 18-2:08 PM



Apr 18-2:10 PM