

Mean Deviation About Mean

Un-grouped Data

X	$ (X-40)^1 $	$(X-40)^2$	$ (X-40)^3 $	$ (X-40)^4 $
45	5	25	125	625
32	8	64	512	4096
37	3	9	27	81
46	6	36	216	1296
39	1	1	1	1
36	4	16	64	256
41	1	1	1	1
48	8	64	512	4096
36	4	16	64	256
SUM	360	40	232	1522

Total no of observation = N = 9

Mean=X = sum of X / Total no of Observation = N

Mean=X = $360/9 = 40$

1st Moment about Mean $\Sigma |(X-40)^1| / N = 4.444444444$

2nd Moment about Mean $\Sigma |(X-40)^2| / N = 25.77777778$

3rd Moment about Mean $\Sigma |(X-40)^3| / N = 169.1111111$

4th Moment about Mean $\Sigma |(X-40)^4| / N = 1189.777778$

Mean Deviation About zero

Un-grouped Data

X	$ (X-0)^1 $	$(X-0)^2$	$ (X-0)^3 $	$ (X-0)^4 $
45	45	2025	91125	4100625
32	32	1024	32768	1048576
37	37	1369	50653	1874161
46	46	2116	97336	4477456
39	39	1521	59319	2313441
36	36	1296	46656	1679616
41	41	1681	68921	2825761
48	48	2304	110592	5308416
36	36	1296	46656	1679616
SUM	360	360	14632	604026

Total no of observation = N = 9

Mean=X = sum of X / Total no of Observation = N

Mean=X = $360/9 = 40$

1st Moment about Mean $\Sigma |(X-0)^1| / N = 40$

2nd Moment about Mean $\Sigma |(X-0)^2| / N = 1625.777778$

3rd Moment about Mean $\Sigma |(X-0)^3| / N = 67114$

4th Moment about Mean $\Sigma |(X-0)^4| / N = 2811963.111$