

(B) By method of Discrete Series :- ^{PHONTS} ~~PHONTS~~

Problem:- Calculate the S.D. of the following data :-

Size of items (X) 6 7 8 9 10 11 12

Frequency (f) 3 6 9 13 8 5 4

FEBRUARY 2000
S M T W T F S S M T W T F S
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24 25 26
27 28 29

APPOINTMENTS

12 WEDNESDAY

JANUARY '2000

Solution:

Size of items (X)	frequency (f)	f.X	X - \bar{X} $\bar{X} = 9$	(X - \bar{X}) ²	f.(X - \bar{X}) ²
6	3	18	-3	9	27
7	6	42	-2	4	24
8	9	72	-1	1	9
9	13	117	0	0	0
10	8	80	+1	1	8
11	5	55	+2	4	20
12	4	48	+3	9	36

$\Sigma f = 48$ $\Sigma fX = 432$

$\Sigma f(X - \bar{X})^2 = 124$

WORK TO DO

$\bar{X} = \frac{\Sigma fX}{N} = \frac{432}{48} = 9$

$\therefore S.D = \sqrt{\frac{\Sigma f(X - \bar{X})^2}{N}}$

$= \sqrt{\frac{124}{48}} = \sqrt{2.4} = 1.6$

X ————— A