DATE: 04/05/2023

(B)

Saud khan

Fa21-BSE-033

Stats-Quiz 2.

10/10

(1)

x_i	f_i	x_i^2	$f_i x_i^2$	$f_i x_i$
2	2	4	8	4
5	1	25	25	5
1	2	1	2	2
	$\Sigma f_i = 5$		$\Sigma = 35$	$\Sigma = 11$

let unit = kg

(a) C.V

(b) V(4x-10)

(a) $= S^2 = \frac{\Sigma f_i x_i^2}{\Sigma f_i} - \left(\frac{\Sigma f_i x_i}{\Sigma f_i}\right)^2$

putting values

$= \frac{35}{5} - \left(\frac{11}{5}\right)^2$

$= 7 - (4.84)$

$V(x) = 2.16\ kg^2$ Ans.

→ next page.

(b) V(4x-10)

by property:

$= V(4x) + V(10)$

$= 4^2 V(x) + 0$

$= 16\, V(x)$

putting values

$16(2.16)$

$= 34.56$ Ans

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=> part of (9) :-

$$S = \sqrt{V(x)}$$

$$= \sqrt{2.16}$$

$$S = 1.46 \text{ kg}.$$

NOW

$$= \frac{S}{\bar{x}} \times 100 \qquad \therefore \bar{x} = \frac{\Sigma f_i x_i}{\Sigma f_i} = \frac{11}{5}$$

$$= \frac{1.46}{2.2} \times 100$$

$$= 66.36\ \%$$