

19/ENE04/024

DATA ANTHONY ETIMOMEN

For the first group

C.I	f	x	fx	x^2	fx^2
1-5	0	3	0	9	0
6-10	7	8	56	64	448
11-15	10	13	130	169	1690
16-20	2	18	36	324	648
21-25	1	23	23	529	529
26-30	5	28	140	784	3920
31-35	4	33	132	1089	4356
	29		517		11591

$$\text{Mean}(\bar{x}_A) = \frac{\sum fx}{\sum f}$$

$$\bar{x}_A = \frac{517}{29}$$

$$\bar{x}_A = 17.828$$

$$S.D_A = \sqrt{\frac{\sum fx^2}{\sum f} - \bar{x}^2}$$

$$= \sqrt{\frac{11591}{29} - 17.828^2}$$

$$= \sqrt{399.69 - 317.82}$$

$$= \sqrt{81.87}$$

$$S.D_A = 9.048$$

$$\text{Coefficient of Variation} = \frac{S.D}{\text{Mean}} \times 100\%$$

$$CV_A = 9.048 \times 100\%$$

17.828

$$CV_A = 50.75\%$$

C.I	f	x	fx	x^2	fx^2
1-5	2	3	6	9	18
6-10	4	8	32	64	256
11-15	7	13	91	169	1183
16-20	20	18	360	324	6480
21-25	16	23	368	529	8464
26-30	10	28	280	784	7840
31-35	4	33	132	1089	4356
	63		1269		28597

$$\text{Mean}(\bar{x}_B) = \frac{\sum fx}{\sum f}$$

$$\bar{x}_B = 1269/63$$

$$= 20.143$$

$$S.D_B = \sqrt{\frac{\sum fx^2}{\sum f} - \text{Mean}^2}$$

$$= \sqrt{\frac{28597}{63} - 20.143^2}$$

$$= \sqrt{453.92 - 405.73}$$

$$= \sqrt{48.19}$$

$$= 6.942$$

$$\begin{aligned}\text{Coefficient of variation} &= \frac{\text{S.D}}{\text{Mean}} \times 100\% \\ C.V_B &= \frac{6.942}{20.143} \times 100 \\ &= 34.46\%\end{aligned}$$

ii) Group B has a less variable distribution compared to Group A.