

$$\text{mean deviation} = \frac{\sum f \cdot |x - \bar{x}|}{\sum f}$$

$$= \frac{912}{63} = 14.47$$

$$\text{Coefficient of Variation} = \frac{\sigma}{\mu} \times 100$$

$$= \frac{6.48}{20} \times 100$$

$$= 32.4\%$$

Group B has less Variable distribution.

$$\text{mean deviation} = \frac{\sum (f \cdot |x - \bar{x}|)}{\sum f}$$

$$= \frac{332.02}{29} = \underline{\underline{11.45}}$$

$$3. \text{ Coefficient of variation} = \frac{\text{standard deviation}}{\mu} \times 100$$

$$= \frac{12.11 \times 100}{17.35}$$

$$= \underline{\underline{69.8\%}}$$

Group B

C.I	mid point	f	x	$x - \bar{x}$	$(x - \bar{x})^2$	$f \cdot (x - \bar{x})$	$f \cdot (x - \bar{x})^2$
1-5	3	2	6	-17	11	51	518
6-10	8	4	24	-12	12	96	516
11-15	13	7	91	-7	7	91	34
16-20	18	20	360	-2	2	36	80
21-25	23	16	368	3	3	69	144
26-30	28	10	280	5	5	140	250
31-35	33	4	132	13	13	429	676
		68	1261			912	2641

$$\text{mean} = \frac{\sum fx}{\sum f} = \frac{1261}{68} = 20$$

$$\text{standard deviation} = \sqrt{\frac{\sum f(x - \bar{x})^2}{\sum f}}$$

$$\sigma = \sqrt{\frac{2641}{68}} = \sqrt{42}$$

$$\sigma = 6.48$$

C.I	Group A	Group B
1-5	0	2
6-10	1	4
11-15	10	7
16-20	2	20
21-25	1	16
26-30	5	10
31-35	4	4

Group A

C.I	mid point x	f	$f \cdot x$	$x - \bar{x}$	$ x - \bar{x} $	$f \cdot x - \bar{x} $	$f(x - \bar{x})^2$
1-5	3	0	0	-14.35	14.35	0	0
6-10	8	7	42	-9.35	9.35	65.45	611.96
11-15	13	10	130	-14.35	14.35	143.5	2059.23
16-20	18	2	36	0.65	0.65	1.3	0.845
21-25	23	1	23	5.65	5.65	5.65	31.92
26-30	28	5	140	10.65	10.65	53.52	567.1
31-35	33	4	132	15.65	15.65	62.6	979.69
		<u>29</u>	<u>503</u>			<u>332.02</u>	<u>4250.745</u>

$$\text{mean} = \frac{\sum fx}{\sum f} = \frac{503}{29} = 17.35$$

$$1. \text{ Standard deviation} = \sqrt{\frac{\sum f(x - \bar{x})^2}{\sum f}}$$

$$\sigma = \sqrt{\frac{4250.745}{29}} = \sqrt{146.577}$$

$$\sigma = \underline{\underline{12.11}}$$