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UNIT-II Quantitative Statistical measures

Coefficient of Variation

Folian & Carried Which poudluct	e fo	ilowing more	data Stabl	find e poi	aut Ces.
poinces of pouduct A (Ps)	. 0	એ	A 1 0	23	16
pointes of poroduct B (Rs)	10	ನಂ	18	12	15
Solution: Assume pur $\overline{X}_{A} = 100$	wduc	t Ba		<u>5</u> = 1	5





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20 20	D Mpgrey=90 X - 20	(x-\bar{x})^2	y	4-5	(1. 5)2
20		О		ADUPTI-15	(y-5)2
22			10	сияече <u>ў</u> =15 — 5	25
	+2	4	20	5	25
19	-1	1	18	3	9
23	3	9	12	-3	9
16	- 4	16	15	D	D
FO4 2 :		Σ(π-π) ² = 30	E1_ =		$\frac{\overline{2(y-\overline{y})^2}}{= 68}$
<i>o</i> _	$c = \sqrt{\frac{50}{500}}$	$(-\overline{x})^2$	30	= 56	
	Sc =	2.449			
~ (C·V = 0	5c × 100			
4-14	₩= <u>0</u>	2.449 x 1	00 = lo	2.045	
coeffic	cient of		n = 12.0	145	
For y:	oy = 1	Σ <u>(y-</u> ÿ) ²	$=\sqrt{\frac{b}{5}}$	<u>P</u> = V	13.6
Ĵa*	$\sigma_y = 3$	3.687			
[p-1	C·V = Oig g efficient	E × 100	$= \frac{3.687}{15} \times \frac{3.687}{15}$	100 =	- 24.58





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: poroduct B is more stable prices

Calcu Stre	late its	re coep g data	Bicien	t of	vasu	atic	n D	0~	
Size	of liter	3.5	4.5	5.5	6.5	7.5	8.5	9.	
For	equency	3	7	ಎಎ	60	85	32	8	
Duti									
		size i	U				>= r	ारे	
\propto	子	d = . A = .		1 .	fd		fol ²		
3.5	3	- 3		-	- 9		27		
4.5	7	- 2		-	-14		\$8		
5.5	22.	- 1		-	-22	1	+4		
6.5	60	0			0		D		
7.5	85)			85		85		
8.5	32	2		6	64		128		
9.5	8	3	14.5	a	4-		72		
	N=.217	0		_ t.	28	2	362		





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Sizo.	of iter	n 3.5	4.5	5.5	6.5	7.5	8.5	9.0
	equency	2	7	ಎಎ		85	32	
Duti						1		
		> Size 6 Frequ	U	em		yr.C) - Y	न्तर
\propto	£	d = x - A $A = 6.5$		1	fd		fd ²	
3.5	3	- 3			-9		27	
4.5	7	- 2		١.	-14		28	
5.5	22.	=1:			-22		44	
6.5	60	0		1.6	O		D	
7.5	85	1			85		35	
8.5	32	2	- 1	(54		128	
9.5	8	3			24		72	
	N=.217	0		1	28	1	362	





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Mean,
$$\bar{x} = A + \sum_{i=1}^{n} \frac{1}{N}$$

$$= b.5 + \underbrace{128}_{217}$$

$$= 7.0899$$

£ = 7.0899

since mean is in fraction, we use the following formula to calculate S.D.

$$\sigma = \sqrt{\frac{5}{N}} \frac{d^2}{\sqrt{\frac{2}{N}}} = \sqrt{\frac{3}{N}} \frac{d^2}{\sqrt{\frac{3}{N}}} = \sqrt{\frac{1.8}{N}} \frac{d^2}{\sqrt{\frac{3}{N}}} = \sqrt{\frac{1.668}{0.589}} = \sqrt{\frac{1.668}{0.346}} = \sqrt{\frac{1.302}{0.302}} = 1.1490$$

Standard deviation, $\sigma = 1.1490$

Coefficient of variation =
$$\frac{5}{x}$$
 × 100
= $\frac{1.1490}{7.0899}$ × 100
= 16. dob2

Coefficient of variation = 16.2062