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Nama : Faiz Ridlyan

NIM : 20142006

Kelas : IF3A

1. Data : 28, 29, 29, 30, 30, 31, 31, 32, 32, 33, 34, 35

a. Jangkauan

$X_{max} = 35$

$X_{min} = 28$

$R = 35 - 28 = 7$

b. Simpangan Rata-Rata

$n = 12$

$$\bar{X} = \frac{28+29+29+30+30+31+31+32+32+33+34+35}{12}$$

$$= \frac{374}{12} = 31,16$$

$$SR = \frac{|28-31,16| + |29-31,16| + |29-31,16| + |30-31,16| +}{12}$$

$$\frac{|30-31,16| + |31-31,16| + |31-31,16| + |32-31,16| + \ldots}{12}$$

$$\frac{|32-31,16| + |33-31,16| + |34-31,16| + |35-31,16|}{12}$$

$$= \frac{3,16+2,16+2,16+1,6+1,6+0,16+0,16+0,84+0,84}{12}$$

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- $\frac{1,84 + 2,84 + 3,84}{12}$

SR = 21,2

c. Simpangan Baku

Data (x)	$x - \bar{x}$	$(x-\bar{x})^2$	x^2
28	-3,16	9,98	784
29	-2,16	4,66	841
29	-2,16	4,66	841
30	-1,6	2,56	900
30	-1,6	2,56	900
31	-0,16	0,02	961
31	-0,16	0,02	961
32	0,84	0,70	1024
32	0,84	0,70	1024
33	1,84	3,38	1089
34	2,84	8,06	1156
35	3,84	14,74	1225
374		41,14	12795

$$S = \sqrt{\frac{(x-\bar{x})^2}{n-1}} = \sqrt{\frac{41,14}{12-1}} = \sqrt{3,74} = 1,93$$

d. Ragam

$$\text{Ragam} = S^2$$
$$= 1{,}93^2$$
$$= 3{,}72$$

e. Koefisien keragaman

$$KK = \frac{S}{\bar{x}}$$
$$= \frac{1{,}93}{31{,}16} = 0{,}061$$

f. Hamparan

$$H = Q_3 - Q_1$$

$n = 12$

$$Q_1 = \frac{1(12+1)}{4} = \frac{13}{4} = 3{,}25 = X_3$$
$$= 29 + 0{,}25(X_4 - X_3)$$
$$= 29 + 0{,}25(30 - 29)$$
$$= 29{,}25$$

$$Q_3 = \frac{3(12+1)}{4} = \frac{3(13)}{4} = \frac{39}{4} = 9{,}75 = X_9$$
$$= 32 + 0{,}75(33 - 32)$$
$$= 32{,}75$$

$$H = 32{,}75 - 29{,}25$$
$$= 3{,}5$$

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g. Simpangan Kuartil (SK)

$$SK = \frac{Q_3 - Q_1}{2}$$

$$= \frac{32,75 - 29,25}{2}$$

$$= \frac{3,5}{2}$$

$$= 1,75$$

h. Rataan Kuartil (RK)

$$Q_2 = \frac{2(12+1)}{4} = \frac{2(13)}{4} = \frac{26}{4} = 6,5 = X_6$$

$$= 31 + 0,5(31 - 31)$$

$$= 31$$

$$RK = \frac{Q_1 + Q_2}{2} = \frac{29,25 + 31}{2} = 60,25$$

i. Rata tiga kuartil

$$RTK = \frac{Q_1 + Q_2 + Q_3}{4} = \frac{29,25 + 31 + 32,75}{4} = \frac{93}{4} = 23,25$$

3. Tentukan usaha paling stabil untuk data berikut:

Kuliner (x)	$x-\bar{x}$	$(x-\bar{x})^2$
90	16	256
65	-9	81
80	6	36
75	1	1
80	6	36
65	-9	81
75	1	1
70	-4	16
80	6	36
60	-14	196
740		704

$$\bar{x} = \frac{90+65+80+75+80+65+75+70+80+60}{10}$$

$$= \frac{740}{10} = 74$$

$$S = \frac{(x-\bar{x})^2}{n-1} = \frac{704}{10-1} = \frac{704}{9} = 78,2$$

$$KK = \frac{S}{\bar{x}} = \frac{78,2}{74} = 1,05$$

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Pertumbuhan (x)	$x - \bar{x}$	$(x - \bar{x})^2$
70	-7	49
80	3	9
85	8	64
80	3	9
65	-12	144
100	23	529
60	-17	289
90	13	169
80	3	9
60	-17	289
770		1560

$$\bar{x} = \frac{770}{10} = 77$$

$$S = \frac{1560}{9} = 173,3$$

$$KK = \frac{S}{\bar{x}} = \frac{173,3}{77} = 2,25$$

ATK(x)	$(x-\bar{x})$	$(x-\bar{x})^2$
100	25	625
50	-25	625
80	5	25
65	-10	100
80	5	25
80	5	25
100	25	625
90	15	225
65	-10	100
50	-25	625
750		3000

$$\bar{x} = \frac{750}{10} = 75$$

$$s = \frac{3000}{9} = 333,33$$

$$KK = \frac{s}{\bar{x}} = \frac{333,33}{75} = 4,44$$

Usaha paling stabil adalah usaha kuliner.
dengan koefisien keragaman = 1,05