Tugas Materi 09

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1. Berapa harga R, R10-90, RAK & RSAK dari distribusi data dibawah ini? Dan berikan kesimpulannya

Interval nilai	**Frekuensi (f)**	**Frekuensi kumulatif (fk)**
41 – 45	3	3
46 – 50	8	11
51 – 55	15	26
56 – 60	25	51
61 – 65	21	72
66 – 70	17	89
71 – 75	11	100
Total	100	

a.) R = Xtertinggi – Xterendah

= 75 – 41

= 34

b.) R10-90?

R10-90 = P90 – P10

$$P = Tb + \left(\frac{\frac{i}{100} \times n - cf}{fd} \right) \times I$$

$$P90 = 70.5 + \left(\frac{\frac{90}{100} \times 100 - 89}{11} \right) \times 5$$

$= 70.5 + (0.090) \times 5$

$= 70.5 + 0.45$

$= 70.9$

$$P10 = 45.5 + \left(\frac{\frac{10}{100} \times 100 - 3}{8} \right) \times 5$$

$= 45.5 + (0.8750) \times 5$

$= 45.5 + 4.375$

$= 49.8$

Jadi, $R10\text{-}90 = P90 - P10$

$= 70.9 - 49.8$

$= 21.1$

c.) RAK & RSAK

$$RSAK = \frac{1}{2} \times (K3 - K1)$$

$$K = Tb + \left(\frac{\frac{i}{4} \times n - cf}{f} \right) \times I$$

$$K1 = 50.5 + \left(\frac{\frac{1}{4} \times 100 - 11}{15} \right) \times 5$$

$= 50.5 + (0.93) \times 5$

$= 50.5 + 4.65$

$= 55.15$

$$K3 = 65.5 + \left(\frac{\frac{3}{4} \times 100 - 72}{17} \right) \times 5$$

$= 65.5 + 0.176 \times 5$

$= 65.5 + 0.88$

$= 66.38$

Jadi $RSAK = \frac{1}{2} \times (K3-K1)$

$= \frac{1}{2} \times (66.38 - 55.15)$

$= 1/2 \times 11.23$

$= 5.615$

Dan RAK = 11.23

Jadi harga range dari distribusi data diatas menghasilkan harga R = 34 ; R10 – 90 = 21.1 ; RAK & RSAK = 66.38 & 5.615

2. Harga rata-rata deviasi dari data berikut adalah

Nilai	F	Fx	Xi – X”	F (Xi –X”)
11	3	33	2.25	6.75
12	5	60	1.25	6.25
13	4	52	0.25	1
14	2	28	0.75	1.5
15	4	60	1.75	7
16	2	32	2.75	5.5
Total	20	265		28

Rata-rata $= \frac{Fx}{F}$

$= \frac{265}{20}$

$= 13.25$

$$\text{Rata-rata deviasi} = \frac{\Sigma f \mid Xi - \overline{X} \mid}{\Sigma f}$$

$$= \frac{28}{20}$$

$$= 1.4$$