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1. Untuk mengetahui kompetensi hukum pengacara diambil sampel secara acak sebanyak 85 orang. Skor kompetensinya disajikan dalam tabel berikut.

Skor	F	x_i	$f_i.x_i$	x_i^2	$(f_i.x_i)^2$
60 - 64	4	62	248	3844	15.376
65 - 69	5	67	335	4489	22.445
70 - 74	7	72	504	5184	36.288
75 - 79	12	77	924	5929	71.148
80 - 84	20	82	1640	6724	134.480
85 - 89	15	87	1305	7569	113.535
90 - 94	12	92	1104	8464	101.568
95 - 99	10	97	970	9409	94.090
Jumlah	85		7030		588.930

a. Mean

$$\bar{x} = \frac{\sum f_i.x_i}{\sum f_i} = \frac{7.030}{85} = 82,7$$

b. Median dan Modus

Median

$$tb = x\left(\frac{n+1}{2}\right) = \frac{85+1}{2} = x\ 43 = 80 - 0,5 = 79,5$$

$f_{me} = 20$

$p = 5$

$$me = tb + \left(\frac{\frac{n+1}{2} - \sum f}{f_{median}}\right).p = 79,5 + \left(\frac{43-28}{20}\right).5$$

$$= 79,5\ \left(\frac{15}{20}\right).5$$

$$= 79,5 + 3,75$$

$$= 83,25$$

Modus

$tb = 79,5$

$P = 5$

$\Delta_1 = 20 - 12 = 8$

$\Delta_2 = 20 - 15 = 5$

$$Mo = tb + \left(\frac{\Delta_1}{\Delta_1 + \Delta_2}\right) . P$$

$$= 79,5 + \left(\frac{8}{8+5}\right) . 5$$

$$= 79,5 + 3,07$$

$$= 82,57$$

C. Quartil (Q_1, Q_2 dan Q_3)

$$Q_1 = \frac{i(n+1)}{4} = \frac{1(85+1)}{4} = 21,5$$

$tb = 75 - 0,5 = 74,5$

$P = 5$

$\sum f = 4 + 5 + 7 = 16$

$FQ_1 = 12$

$$Q_1 = tb + \left(\frac{Q_1 - \sum f}{fQ_i}\right) . P = 74,5 + \left(\frac{21,5 - 16}{12}\right) . 5$$

$$= 74,5 + 2,29$$

$$= 76,79$$

$Q_2 = \frac{i(n+1)}{4}$

$= \frac{2(85+1)}{4}$

$= \frac{2(86)}{4}$

$= \frac{172}{4}$

$= 43$

$\sum f = 4+5+7+12 = 28$

$tb = 80 - 0,5 = 79,5$

$fQ_2 = 20$

$p = 5$

$Q_2 = tb + \left(\frac{Q_2 - \sum f}{fQ_2}\right) \cdot p = 79,5 + \left(\frac{43-28}{20}\right) \cdot 5$

$= 79,5 + 3,75$

$= 83,25$

$Q_3 = \frac{i(n+1)}{4} = \frac{3(85+1)}{4} = 64,5$

$tb = 90 - 0,5 = 89,5$

$p = 5$

$\sum f = 4+5+7+12+20+15 = 63$

$fQ_3 = 12$

$$Q_3 = tb + \left(\frac{Q_3 - \sum f}{f Q_3}\right) \cdot P = 89{,}5 + \left(\frac{64{,}5 - 63}{12}\right) \cdot 5$$

$$= 89{,}5 + 0{,}625$$

$$= 90{,}125$$

J. Desil (D_6, D_7 dan D_9)

$$D_6 = \frac{i(n+1)}{10} = \frac{6(85+1)}{10} = 51{,}6$$

$$tb = 85 - 0{,}5 = 84{,}5$$

$$P = 5$$

$$\sum f = 4 + 5 + 7 + 12 + 20 = 48$$

$$f D_6 = 15$$

$$D_6 = tb + \left(\frac{D_6 - \sum f}{f D_6}\right) \cdot P = 84{,}5 + \left(\frac{51{,}6 - 48}{15}\right) \cdot 5$$

$$= 84{,}5 + 1{,}2$$

$$= 85{,}7$$

$$D_7 = \frac{i(n+1)}{10} = \frac{7(85+1)}{10} = 60{,}2$$

$$tb = 85 - 0{,}5 = 84{,}5$$

$$P = 5$$

$$\sum f = 4 + 5 + 7 + 12 + 20 = 48$$

$f D7 = 15$

$D7 = tb + \left(\frac{D7 - \sum f}{f D7}\right) . P = 84,5 + \left(\frac{60,2 - 48}{15}\right) \cdot 5$

$= 84,5 + 4,06$

$= 88,56$

$D9 = \frac{i(n+1)}{10} = \frac{9(85+1)}{10} = 77,4$

$tb = 95 - 0,5 = 94,5$

$P = 5$

$\sum f = 4 + 5 + 7 + 12 + 20 + 15 + 12 = 75$

$f D9 = 10$

$D9 = tb + \left(\frac{D9 - \sum f}{f D9}\right) . P = 94,5 + \left(\frac{77,4 - 75}{10}\right) . 5$

$= 94,5 + 1,2$

$= 95,7$

8. Persentil

$P25 = \frac{i(n+1)}{100} = \frac{25(85+1)}{100} = 21,5$

$tb = 75 - 0,5 = 74,5$

$P = 5$

$\sum f = 4 + 5 + 7 = 16$

$f P25 = 12$

$$P_{25} = tb + \left(\frac{P_{25} - \sum f}{f P_{25}}\right) \cdot p = 74{,}5 + \left(\frac{21{,}5 - 16}{12}\right) \cdot 5$$

$$= 74{,}5 + 2{,}29$$

$$= 76{,}79$$

$$P_{70} = \frac{i(n+1)}{100}$$

$$= \frac{70(85+1)}{100}$$

$$= 60{,}2$$

$$tb = 85 - 0{,}5 = 84{,}5$$

$$p = 5$$

$$\sum f = 415 + 7 + 12 + 20 = 48$$

$$f P_{70} = 15$$

$$P_{70} = tb + \left(\frac{P_{70} - \sum f}{f P_{70}}\right) \cdot p = 84{,}5 + \left(\frac{60{,}2 - 48}{15}\right) \cdot 5$$

$$= 84{,}5 + 4{,}06$$

$$= 88{,}56$$

$P_{90} = \frac{i\,(n+1)}{100} = \frac{90\,(85+1)}{100} = 77,4$

$tb = 95 - 0,5 = 94,5$

$P = 5$

$\sum F = 4+5+7+12+20+15+12 = 75$

$FP_{90} = 10$

$P_{90} = tb + \left(\frac{P_{90} - \sum F}{P_{90}}\right) . P = 94,5 + \left(\frac{77,4-75}{10}\right) . 5$

$= 94,5 + 1,2$

$= 95,7$

F. Rentang

Rentang = x maks $- x$ min $= 99 - 60 = 39$

g. Rentang antar kuartil

$RAQ = Q_3 - Q_1$

$= 90,125 - 76,79$

$= 13,33$

h. Deviasi (simpangan) Quartil

$SQ = \frac{1}{2}(Q_3 - Q_1)$

$= \frac{1}{2} . 13,33$

$= 6,665$

1. Standar Deviasi dan Varians

$\bar{x} = 82,70$

$s = \sqrt{\frac{\Sigma f \cdot x_i^2}{n} - (\bar{x})^2}$

$= \sqrt{\frac{588.930}{85} - (82,70)^2}$

$= \sqrt{89,298}$

$= 9,44$

Varians

$s^2 = (\sqrt{89,298})^2$

$= 89,298$