

Statistika

1. $T_M = 49 \rightarrow 48,5 \rightarrow$ kelas frekuensi terbanyak

$$S_1 = 14 - 9 = 5$$

$$S_2 = 14 - 10 = 4$$

$$c = 6$$

$$\text{Modus} = 48,5 + \left(\frac{5}{9} \right) \cdot 6$$

$$= 48,5 + \frac{30}{9}$$

$$= 48,5 + 3,33$$

$$= \underline{\underline{51,8}}$$

2. Berat badan

	f_i	x_i	$f_i x_i$	d_i	$f_i d_i$	U_i	$f_i V_i$
50 - 54	4	52	208	-15	-60	-3	-12
55 - 59	6	57	342	-10	-60	-2	-12
60 - 64	8	62	496	-5	-40	-1	-8
65 - 69	10	67	670	0	0	0	0
70 - 74	8	72	576	5	40	1	8
75 - 79	4	77	308	10	40	2	8
	<u>40</u>		<u>2600</u>		<u>-80</u>		<u>-16</u>

$\bar{x}_s = 67$

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i} = \frac{2600}{40} = 65 \quad \dots \text{cara 1}$$

$$\bar{X} = \frac{\sum f_i d_i}{\sum f_i} + \bar{x}_s$$

$$= \frac{-80}{40} + 67 = -2 + 67 = 65 \quad \text{cara 2}$$

$$\bar{X} = \bar{x}_s + \left(\frac{\sum f_i V_i}{\sum f_i} \right) c$$

$$= 67 + \left(\frac{-16}{40} \right) 5$$

$$= 67 + \frac{-80}{40}$$

$$= 65 \quad \dots \text{cara 3}$$

3. liat no 2

	f_i	x_i	$f_i x_i$	d_i	$f_i d_i$	U_i	$f_i U_i$
11-15	5	13	65	-10	-50	-2	-10
16-20	6	18	108	-5	-30	-1	-6
21-25	12	23	276	0	0	0	0
26-30	18	28	504	5	90	1	18
31-35	9	33	297	10	90	2	18
	<u>50</u>		<u>1250</u>	<u>0</u>	<u>100</u>		<u>20</u>

$$X_s = 23$$

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i} = \frac{1250}{50} = 25 \quad \dots \text{cara 1}$$

$$\bar{X} = 23 + \frac{100}{50}$$

$$= 23 + 2$$

$$= 25$$

... cara 2

$$\bar{X} = 23 + \left(\frac{20}{50}\right) 5$$

$$= 23 + \frac{100}{50} = 25 \quad \dots \text{cara 3}$$

4.

	f_i	x_i	$f_i x_i$	d_i	$f_i d_i$	U_i	$f_i U_i$
0-4	4	2	8	-10	-40	-3	-12
5-9	6	7	42	-10	-60	-2	-12
10-14	9	12	108	-5	-45	-1	-9
15-19	14	17	238	0	0	0	0
20-24	10	22	220	5	50	1	10
25-29	5	27	135	10	50	2	10
30-34	2	32	64	15	30	3	6
	<u>50</u>		<u>815</u>		<u>-35</u>		<u>-7</u>

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i} = \frac{815}{50} = 16,3$$

$$\bar{X} = X_s + \frac{\sum f_i d_i}{\sum f_i}$$

$$= 17 + \frac{-35}{50}$$

$$= 17 - 0,7 = 16,3$$

$$\bar{X} = X_s + \left(\frac{\sum f_i d_i}{\sum f_i}\right) 5$$

$$= 17 + \left(\frac{-7}{50}\right) 5$$

$$= 17 + \left(\frac{-35}{50}\right)$$

$$= 16,3$$

	f
4-7	6
8-11	10
12-15	18
16-19	40
20-23	16
24-27	10
	<u>100</u>

$$\frac{n}{4} = 25 \quad \text{kelas } Q_1 = 12-15$$

$$TQ_1 = 11,5$$

$$\sum f_i = 16$$

$$f_i = 18$$

$$c = 4$$

$$Q_1 = TQ_1 + \left(\frac{\frac{n}{4} - \sum f_i}{f_i} \right) c$$

$$= 11,5 + \left(\frac{25 - 16}{18} \right) 4$$

$$= 11,5 + 2$$

$$= 13,5$$

$$\frac{n}{2} = 50 \quad \text{kelas } Q_2 = 16-19$$

$$TQ_2 = 15,5$$

$$\sum f_i = 34$$

$$f_i = 40$$

$$Q_2 = TQ_2 + \left(\frac{\frac{n}{2} - \sum f_i}{f_i} \right) c$$

$$= 15,5 + \left(\frac{50 - 34}{40} \right) 4$$

$$= 15,5 + \frac{64}{40}$$

$$= 15,5 + 1,6$$

$$= 17,1$$

$$\frac{3n}{4} = 75 \quad \text{kelas } Q_3 = 20-23$$

$$TQ_3 = 19,5$$

$$\sum f_i = 74$$

$$f_i = 16$$

$$Q_3 = 19,5 + \left(\frac{75 - 74}{16} \right) 4$$

$$= 19,5 + \frac{4}{16}$$

$$= 19,5 + 0,25$$

$$= 19,75$$

x_i	f_i	$f_i x_i$	d_i	$f_i d_i$	V_i	$f_i V_i$
57	2	114	-10	-20	-2	-4
62	4	248	-5	-20	-1	-4
<u>67</u>	18	1206	0	0	0	0
72	14	1008	5	70	1	14
77	12	924	10	120	2	24
	<u>50</u>	<u>3500</u>		<u>150</u>		<u>30</u>

$$\bar{x} = \frac{3500}{50} = 70 \dots \text{cara 1}$$

$$\begin{aligned} \bar{x} &= 67 + \frac{150}{50} \\ &= 70 \dots \text{cara 2} \end{aligned}$$

$$\begin{aligned} \bar{x} &= 67 + \left(\frac{30}{50}\right)5 \\ &= 67 + \frac{150}{50} \\ &= 67 + 3 \quad \text{cara 3} \\ &= \underline{\underline{70}} \end{aligned}$$

7. kelas modus = 45-49
Tepi bawah = 44,5

$$S_1 = 12 - 6 = 6$$

$$S_2 = 12 - 8 = 4$$

$$c = 5$$

$$\begin{aligned} \text{Modus} &= T_M + \left(\frac{S_1}{S_2 + S_1}\right) \cdot c \\ &= 44,5 + \left(\frac{6}{10}\right)5 \\ &= 44,5 + \frac{30}{10} \\ &= \underline{\underline{47,5}} \end{aligned}$$

8. kelas modus = 45 - 49

$$T_M = 44,5$$

$$S_1 = 12 - 8$$

$$S_2 = 12 - 6$$

$$C = 5$$

$$\text{Modus} = T_M + \left(\frac{S_1}{S_1 + S_2} \right) C$$

$$= 44,5 + \left(\frac{4}{4+6} \right) \cdot 5$$

$$= 44,5 + \frac{30}{10}$$

$$= 47,5$$

47,5