

TUTORIAL CENTRAL LOCATION

① Mean = $\frac{\sum x}{n}$
 $= \frac{838}{5}$
 $= 167.6 *$

Median
 156, 166, 166, 170, 180

Mode = 166 *

Med position = $\frac{n+1}{2}$
 $= \frac{5+1}{2}$
 $= 3^{rd}$

Median value = 166 *

② Mean = $\frac{\sum x}{n}$
 $= \frac{198}{10}$
 $= 19.8 *$

17, 18, 18, 18, 19, 20, 21, 21, 22, 24

Mode = 18 *

Median position = $\frac{n+1}{2} = \frac{10+1}{2} = 5.5^{th}$

Median value = $\frac{19+20}{2} = \frac{39}{2} = 19.5 *$

④

LCB	UCB	X	f	cf	fx
29.5	39.5	34.5	6	6	207
39.5	49.5	44.5	9	15	400.5
49.5	59.5	54.5	20	35	1090
59.5	69.5	64.5	35	70	2257.5
69.5	79.5	74.5	20	90	1490
79.5	89.5	84.5	6	96	507
89.5	99.5	94.5	4	100	378
			160	6330	

Mean = $\frac{\sum fx}{\sum f} = \frac{6330}{100} = 63.3 *$

Modal class = 60-69 *

Median = LCB + $\frac{(\text{Med position} - CF_{n-1})}{F_n} \times \text{class width}$

Median position = $\frac{n+1}{2}$
 $= \frac{100+1}{2}$
 $= 50.5$

class width = UCB - LCB
 $= 89.5 - 59.5$
 $= 30$

Median = $59.5 + \left[\frac{(50.5 - 35)}{35} \times 30 \right]$

$= 59.5 + 4.4286$

$= 63.9286 *$

LCB	UCB	X	f	cf	fx
4	6	5	4	4	20
6	8	7	14	18	98
8	10	9	34	52	306
10	12	11	28	80	308
12	14	13	20	100	260
			100	992	

Mean = $\frac{\sum fx}{\sum f} = \frac{992}{100} = 9.92 *$

Modal class = 8-10

Median = LCB + $\frac{(\text{Med position} - CF_{n-1})}{F_n} \times \text{class width}$

Median position = $\frac{n+1}{2}$
 $= \frac{100+1}{2}$
 $= 50.5$

class width = UCB - LCB
 $= 10 - 8$
 $= 2$

Median = $8 + \left[\frac{(50.5 - 18)}{34} \times 2 \right]$

$= 9.91 *$

MCQ answer :

- | | | |
|------|------|------|
| 1) C | 4) A | 7) B |
| 2) B | 5) C | 8) B |
| 3) B | 6) A | |