

Star quiz 15 No:- 1

Q. 16
gives Ages - soccer match.

1. Sort the array

1	4	9	2	3	8	9	8	A	8	7
2	3	7	8	0	9	3	2	8	2	0
3	0	7	8	7	1	0	8			
4	5	0	9	0	0	2				
5	0	0								
6	8									

Sorted data :-

140 ✓	12, 13, 14, 15, 15, 17, 17, 18, 18, 19
289	20, 20, 21, 22, 23, 23, 23, 27, 27, 29, 29
213	31, 35, 35, 37, 37, 38, 38, 38
215	40, 40, 42, 45, 49
111	53, 53
65	65

$$\text{mean} = \frac{\text{total sum}}{\text{total No}} = \frac{1007}{35} = 28.17$$

$$\text{median} : \text{Since } 35 \text{ is odd} \\ = \left(\frac{35}{2} \right) + 1 = 18^{\text{th}} \text{ element}$$

$$\boxed{\text{Median} = 27}$$

$$\boxed{\text{mod} = 23} \quad (\text{occurring 3 times})$$

Find Q1

Since 1st half contains 18 elements.

$$\text{Avg. } \left(\frac{n}{2} \right) \text{ and } \left(\frac{n}{2} + 1 \right)$$

$$= \frac{38}{2}, \left(\frac{38}{2} + 1 \right) = \left(\frac{38}{2}, 18 \right)$$

$$(9^{\text{th}}, 10^{\text{th}} \text{ element}) / 2$$

$$Q1 = \frac{18+19}{2} = 18.5$$

$$Q3 \rightarrow n = 17 \quad (2^{\text{nd}} \text{ half})$$

$$\Rightarrow \left(\frac{17}{2} \right) + 1 = 9$$

$$Q3 \rightarrow 38$$

Ans:- Five number Summary

$$\text{Min} = 12$$

$$\text{Max} = 65$$

$$\text{Mean} = 28.17$$

$$\text{Median} = 27$$

$$Q1 = 18.5$$

$$Q3 = 38$$

$$\text{Mode} = 23$$

$$\text{std. dev} = \sqrt{\frac{1}{n-1} \sum_{i=p}^n (x_i - \bar{x})^2}$$

1304	= 15 14 13 12 12 10 10 9 9 8
215	7 7 6 5 4 4 4 0 0 22
586	4 8 8 10 10 11 11
1371	13 13 15 18 22
676	26

$$\begin{aligned} &= \sqrt{164.5} \\ &= 12.82 \end{aligned}$$