



Exercise 14G

Question 2:

(i) Arranging the data in ascending order , we have

9, 10, 17, 19, 21, 22, 32, 35

Here $n = 8$, which is even

$$\begin{aligned}\text{median} &= \frac{1}{2} \left[\left[\left(\frac{n}{2} \right) \right] \text{th term} + \left(\frac{n}{2} + 1 \right) \text{th term} \right] \\ &= \frac{(1)}{2} [(4\text{th term} + 5\text{th term})] [\because n = 8] \\ &= \frac{1}{2} (19 + 21) \\ &= \left(\frac{1}{2} \times 40 \right) = 20\end{aligned}$$

$$\therefore \text{median} = 20$$

(ii) Arranging the data in ascending order , we have

29, 35, 51, 55, 60, 63, 72, 82, 85, 91

Here $n = 10$, which is even

$$\begin{aligned}\therefore \text{median} &= \frac{1}{2} \left[\left[\left(\frac{n}{2} \right) \right] \text{th term} + \left(\frac{n}{2} + 1 \right) \text{th term} \right] \\ &= \frac{1}{2} [(5\text{th term} + 6\text{th term})] [\because n = 10] \\ &= \frac{1}{2} (60 + 63) \\ &= \left(\frac{1}{2} \times 123 \right) = 61.5\end{aligned}$$

$$\therefore \text{median} = 61.5$$

(iii) Arranging the data in ascending order , we have

3, 4, 9, 10, 12, 15, 17, 27, 47, 48, 75, 81 Here $n = 12$, which is even

$$\begin{aligned}\text{median} &= \frac{1}{2} \left[\left[\left(\frac{n}{2} \right) \right] \text{th term} + \left(\frac{n}{2} + 1 \right) \text{th term} \right] \\ &= \frac{1}{2} [(6\text{th term} + 7\text{th term})] [\because n = 12] \\ &= \frac{1}{2} (15 + 17) \\ &= \left(\frac{1}{2} \times 32 \right) = 16\end{aligned}$$

$$\therefore \text{median} = 16$$

Question 3:

Arranging the data in ascending order , we have

17, 17, 19, 19, 20, 21, 22, 23, 24, 25, 26, 29, 31, 35, 40

Here $n = 15$, which is odd

$$\begin{aligned}\text{Median} &= \frac{1}{2}(n + 1)\text{th term} \\ &= \frac{1}{2}(15 + 1)\text{th term} \\ &= \text{value of 8th term} \\ &= 23\end{aligned}$$

$$\therefore \text{Median} = 23$$

Thus, the median score is 23.

***** END *****