

Q. Calculating Median from ungrouped data. {When the number of scores is Even}

88, 70, 72, 125, 115, 95, 81, 90, 95, 90

Step 1 → Arrange the scores in an ascending order.

Step 2 → Put values as per the formula.

5th 6th  
70, 72, 81, 88, 90, 90, 95, 95, 115, 125

$$\text{Median} = \frac{1}{2} \left( \frac{n}{2} \text{th term} + \frac{n+2}{2} \text{th term} \right)$$

$$\Rightarrow \frac{n}{2} \text{th term} = \frac{10}{2} = 5 \text{th term} = \underline{\underline{90}}$$

( $n$  = no. of items/scores.)

$$\Rightarrow \frac{n+2}{2} \text{th term} = \frac{10+2}{2} = \frac{12}{2} = 6 \text{th term} = \underline{\underline{90}}$$

Now putting everything in the formula

$$= \frac{1}{2} (90 + 90)$$

$$\left[ \begin{array}{l} n^{\text{th}} \text{ term} = 90 \\ \frac{n+2}{2}^{\text{th}} \text{ term} = 90 \end{array} \right]$$

$$= \frac{1}{2} (180)$$

$$= 0.5 \times 180 = 90$$

$$\text{mdn} = \underline{\underline{90}}$$