

# ASSIGNMENT-3

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## Excercise 14.4

### PROBLEM-3 :

The following observations have been arranged in ascending order. If the median of the data is 63. Find the value of  $x$ .

29, 32, 48, 50,  $x$ ,  $x + 2$ , 72, 78, 84, 95

### Solution:

Given observations are 29, 32, 48, 50,  $x$ ,  $x + 2$ , 72, 78, 84, 95.

And,  $Median = 63$

Number of observations,  $n = 10$

Here, number of observations  $n$  is even.

$$\therefore Median = \frac{\left(\frac{n}{2}\right)^{th} \text{ observation} + \left(\frac{n}{2} + 1\right)^{th} \text{ observation}}{2} \quad (1)$$

$$\Rightarrow Median = \frac{5^{th} \text{ observation} + 6^{th} \text{ observation}}{2} \quad (2)$$

$$63 = \frac{x + x + 2}{2} \quad (3)$$

$$63 = \frac{2(x + 1)}{2} \quad (4)$$

$$x + 1 = 63 \quad (5)$$

$$\therefore x = 62 \quad (6)$$