

NTS GAT General Past Papers Questions

Quantitative – Exam No. 04

Median

Prepared by: GAT Online Tutor

Formula:

Arrange the data in ascending or descending order and then count the number of data points:

- a) If there are odd number of data points then middle value is the median.
- b) If there are even number of data points then average of middle two values is the median.

Exercise:

1. Find the median of the following data: (PP)

27, 45, 37, 32, 29, 35, 33, 45, 47

Solution:

Place them in ascending order:

27, 29, 32, 33, 35, 37, 45, 45, 47

We have odd number of data points, so middle value will be median.

$$\text{Median} = 35$$

2. Find the median of the following data:

5, 5, 7, 8, 1, 2, 5, 6, 4, 9

Solution:

Place them in ascending order:

1, 2, 4, 5, 5, 5, 6, 7, 8, 9

We have even number of data points, so average of middle two values will be median.

$$\text{Median} = \frac{5 + 5}{2} = 5$$

3. Find the median of the following data:

45, 48, 63, 27, 34, 54, 64, 85, 66

Solution:

Place them in ascending order:

27, 34, 45, 48, 54, 63, 64, 66, 85

We have odd number of data points, so middle value will be median.

$$\text{Median} = 54$$

4. Find the median of the following data: (PP)

-9, -4, 8, 14, 11, 0, 25, 0, -6, -1, 7, 1

Solution:

Place them in ascending order:

-9, -6, -4, -1, 0, 0, 1, 7, 8, 11, 14, 25

We have even number of data points, so average of middle two values will be median.

$$\text{Median} = \frac{0 + 1}{2} = 0.5$$

5. Find the median of the following data: (PP)

8, 5, 7, 5, 9, 9, 1, 8, 10, 5, 10

Solution:

Place them in ascending order:

1, 5, 5, 5, 7, 8, 8, 9, 9, 10, 10

We have odd number of data points, so middle value will be median.

$$\text{Median} = 8$$

6. If half the range of the increasing series {11, A, 23, B, C, 68, 73} is equal to its median, what is the median of the series? (PP)

Solution:

It is given that:

$$\text{Median} = \frac{1}{2} \times \text{Range}$$

$$\text{Median} = \frac{1}{2} \times (73 - 11)$$

$$\text{Median} = \frac{1}{2} \times (62)$$

$$\text{Median} = 31$$

7. If x is an integer between 11 and 21, inclusive, then the median of the list of numbers below must be:

13, 15, 17, 19, x , 14, 16, 18, 20

- (A) Either 15 or 16
- (B) Either 16 or 17
- (C) Either 17 or 18
- (D) 16.5
- (E) x

Solution:

x	Ascending Order	Median
11	11, 13, 14, 15, 16, 17, 18, 19, 20	16
12	12, 13, 14, 15, 16, 17, 18, 19, 20	16
13	13, 13, 14, 15, 16, 17, 18, 19, 20	16
14	13, 14, 14, 15, 16, 17, 18, 19, 20	16
15	13, 14, 15, 15, 16, 17, 18, 19, 20	16

16	13, 14, 15, 16, 16, 17, 18, 19, 20	16
17	13, 14, 15, 16, 17, 17, 18, 19, 20	17
18	13, 14, 15, 16, 17, 18, 18, 19, 20	17
19	13, 14, 15, 16, 17, 18, 19, 19, 20	17
20	13, 14, 15, 16, 17, 18, 19, 20, 20	17
21	13, 14, 15, 16, 17, 18, 19, 20, 21	17

Median is either 16 or 17, hence option B is correct.