



ECONOMICS

BOOKS - GOYAL BROTHERS PRAKASHAN

ECONOMICS (HINGLISH)

QUARTILES

Illustration

1. When quartile item is not a fraction.

Let us find out the value of Q_1 from the following

data :

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2. When quartile is a fraction

Let us calculate Q_1 from the following array.

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Array of Daily Wages of Workers in Factory.

Item No. (Worker)	Daily wage (₹)	Item No. (Worker)	Daily wage (₹)
1	60	11	76
2	61	12	77
3	62	13	80
4	65	14	81
5	66	15	81
6	68	16	82
7	70	17	82
8	71	18	83
9	73	19	83
10	75	20	83

3.

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Example

1. Given below are marks (out of 100) of 10 students in an examination . Calculate first and third quartiles.

90,64,79,33,85,59,60,70,40,95



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2. Find out first and third quartiles from the following items:

9,15,12,21,8,17,20



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3. Find the first and third quartiles from the following distribution :

Wage (₹)	No. of workers
0 – 100	20
100 – 200	30
200 – 300	35
300 – 400	40
400 – 500	20



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4. Find first and third quartiles from the following distribution.

Marks	No. of students
0 - 20	8
20 - 40	17
40 - 60	27
60 - 80	18
80 - 100	10



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5. Find out first and third quartiles from the following distribution :

Marks	0 - 25	25 - 50	50 - 75	75 - 100
No. of students	4	16	12	8



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Multiple Choice Questions

1. Spot the wrong statement about median and quartiles.

A. Both are positional average

B. Both have the same method of calculation

C. Both have the same method of calculation

D. Both divide the series into a number of equal parts

Answer: C



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2. One of the following is a measure of median

A. Q_1

B. Q_2

C. Q_3

D. Q_4

Answer: B



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Numerical Questions

1. Calculate Q_1 , Q_2 and Q_3 ,

Marks	No. of students
0 - 20	3
20 - 40	4
40 - 60	20
60 - 80	15
80 - 100	8



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2. Calculate Q_1 and Q_3 of the daily wages (in Rs.) of 15 workers in a factory:

90, 95, 60, 65, 55, 50, 70, 75, 80, 85, 45, 40, 30, 35, 100.

Also interpret the result.



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3. Calculate Q_1 and Q_3 of the heights (in cm) of 12 person,

150, 153, 154, 148, 160, 162, 163, 168, 166, 167, 151, 156

a

Also calculate median.



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4. Calculate first and third quartiles from the following frequency distribution.

Cost per unit (₹)	Output (units)
10 – 20	20
20 – 30	10
30 – 40	6
40 – 50	10
50 – 60	15
60 – 70	20
70 – 80	25



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5. Find the first and third quartiles.

Marks	No. of students
Below 10	5
Below 20	10
Below 30	20
Below 40	25
Below 50	50
Below 60	60
Below 70	64



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6. Find the first and third quartiles.

Marks	No. of students
Above 0	100
Above 10	94
Above 20	80
Above 30	60
Above 40	20
Above 50	8

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7. The following are the marks obtained by students.

Calculate Q_1 and Q_3 .

Marks	No. of students
10 marks or less	4
20 marks or less	10
30 marks or less	25
40 marks or less	40
50 marks or less	45
60 marks or less	50



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