

RD Sharma Solutions Class 10 Maths Chapter 7 Exercise 7.6: This exercise focuses on applying statistical methods to analyze grouped data effectively. Key topics include cumulative frequency distribution, drawing cumulative frequency curves (ogives), and determining measures like the median graphically. Students learn to interpret and solve problems involving data representation through histograms and frequency polygons.

This builds a foundation for data analysis by teaching visualization and interpretation techniques. Step-by-step solutions in RD Sharma emphasize understanding concepts, ensuring students grasp the methodology behind statistical calculations. The exercise is vital for mastering data handling and prepares students for real-world data analysis scenarios.

RD Sharma Solutions Class 10 Maths Chapter 7 Exercise 7.6 Overview

Exercise 7.6 of RD Sharma Class 10 Maths focuses on Statistics, particularly on calculating the mean, median, and mode for grouped data. These concepts are critical for understanding data representation and analysis in real-life scenarios. Learning these methods equips students with the ability to interpret and summarize large datasets, which is essential for decision-making in fields like economics, business, and research.

This chapter builds a strong foundation for advanced statistical studies in higher classes, enabling students to comprehend and analyze data trends effectively. Practicing these solutions ensures clarity and boosts problem-solving skills.

RD Sharma Solutions Class 10 Maths Chapter 7 Exercise 7.6 Statistics

Below is the RD Sharma Solutions Class 10 Maths Chapter 7 Exercise 7.6 Statistics -

1. Draw an ogive by less than the method for the following data:

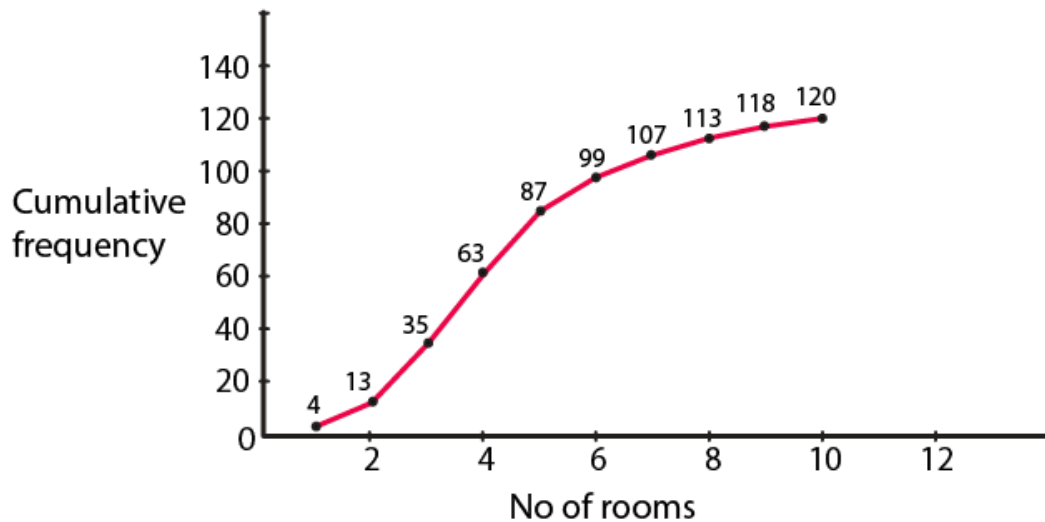
No. of rooms	1	2	3	4	5	6	7	8	9	10
No. of houses	4	9	22	28	24	12	8	6	5	2

Solution:

No. of rooms	No. of houses	Cumulative Frequency
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Less than or equal to 1	4	4
Less than or equal to 2	9	13
Less than or equal to 3	22	35
Less than or equal to 4	28	63
Less than or equal to 5	24	87
Less than or equal to 6	12	99
Less than or equal to 7	8	107
Less than or equal to 8	6	113
Less than or equal to 9	5	118
Less than or equal to 10	2	120

It's required to plot the points (1, 4), (2, 13), (3, 35), (4, 63), (5, 87), (6, 99), (7, 107), (8, 113), (9, 118), (10, 120), by taking upper-class limit over the x-axis and cumulative frequency over the y-axis.



2. The marks scored by 750 students in an examination are given in the form of a frequency distribution table:

Marks	No. of Students
600 – 640	16

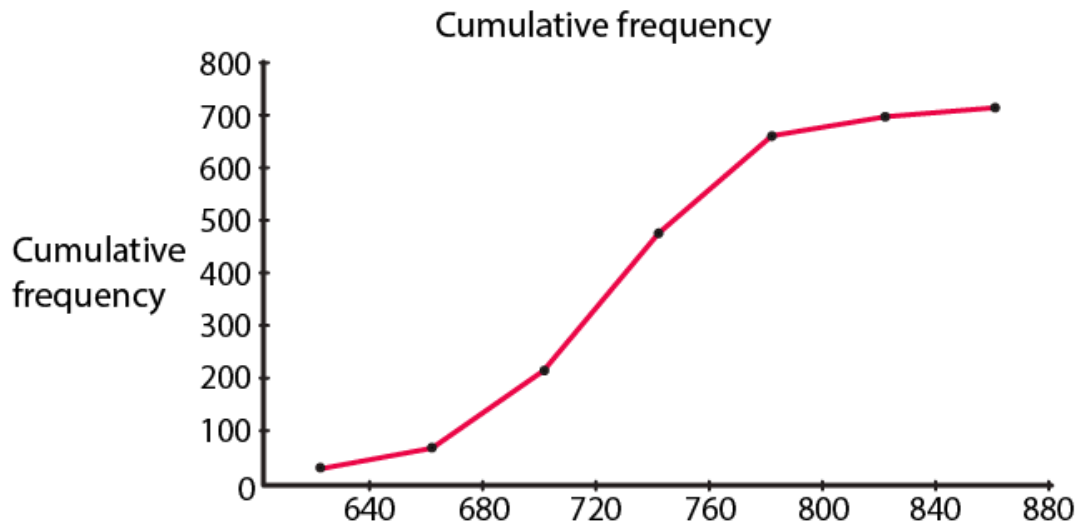
640 – 680	45
680 – 720	156
720 – 760	284
760 – 800	172
800 – 840	59
840 – 880	18

Prepare a cumulative frequency distribution table by less than method and draw an ogive.

Solution:

Marks	No. of Students	Marks Less than	Cumulative Frequency
600 – 640	16	640	16
640 – 680	45	680	61
680 – 720	156	720	217
720 – 760	284	760	501
760 – 800	172	800	673
800 – 840	59	840	732
840 – 880	18	880	750

Plot the points (640, 16), (680, 61), (720, 217), (760, 501), (800, 673), (840, 732), (880, 750) by taking upper class limit over the x-axis and cumulative frequency over the y-axis.



3. Draw an Ogive to represent the following frequency distribution:

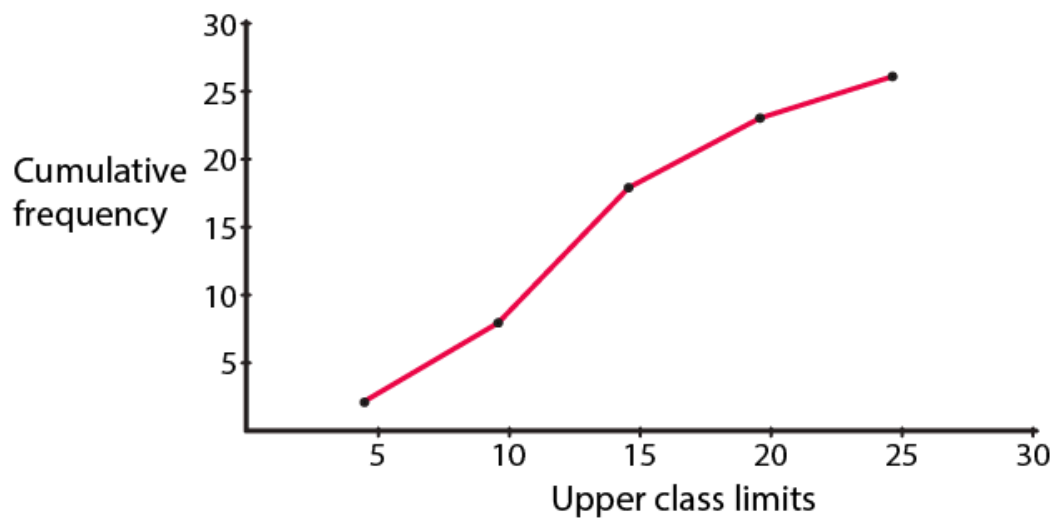
Class-interval	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24
No. of students	2	6	10	5	3

Solution:

Since the given frequency distribution is not continuous, we will have to first make it continuous and then prepare the cumulative frequency:

Class-interval	No. of Students	Less than	Cumulative frequency
0.5 – 4.5	2	4.5	2
4.5 – 9.5	6	9.5	8
9.5 – 14.5	10	14.5	18
14.5 – 19.5	5	19.5	23
19.5 – 24.5	3	24.5	26

Plot the points (4.5, 2), (9.5, 8), (14.5, 18), (19.5, 23), (24.5, 26) by taking the upper-class limit over the x-axis and cumulative frequency over the y-axis.



4. The monthly profits (in Rs) of 100 shops are distributed as follows:

Profit per shop	No of shops:
0 – 50	12
50 – 100	18
100 – 150	27
150 – 200	20
200 – 250	17
250 – 300	6

Draw the frequency polygon for it.

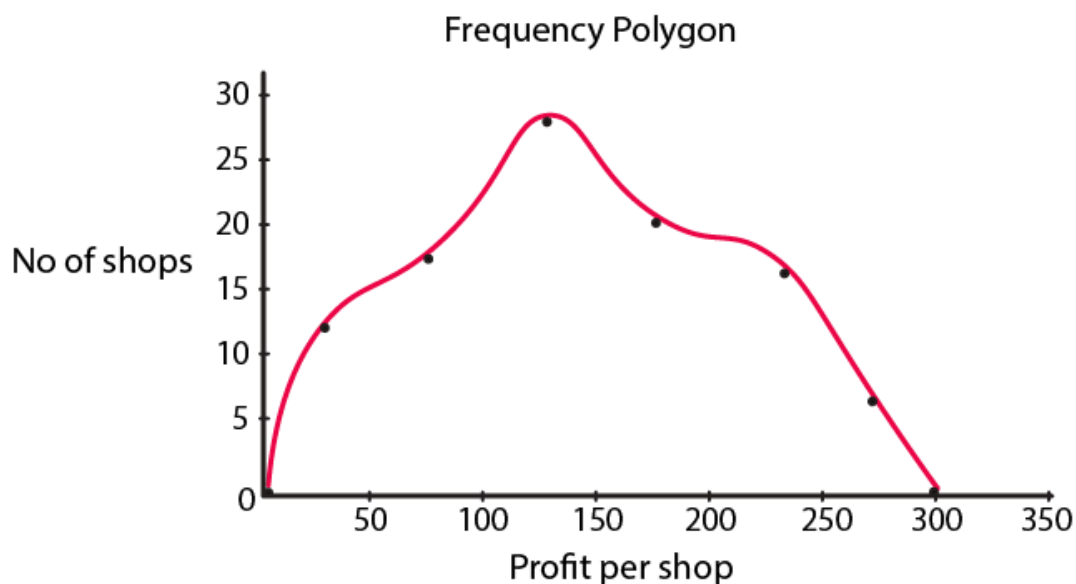
Solution:

Doing for the less than method, we have

Profit per shop	Mid-value	No of shops:
Less than 0	0	0
Less than 0 – 50	25	12
Less than 50 – 100	75	18

Less than 100 – 150	125	27
Less than 150 – 200	175	20
Less than 200 – 250	225	17
Less than 250 – 300	275	6
Above 300	300	0

By plotting the coordinates respectively, we can get the frequency polygon.



5. The following distribution gives the daily income of 50 workers of a factory:

Daily income (in Rs):	No of workers:
100 – 120	12
120 – 140	14
140 – 160	8
160 – 180	6
180 – 200	10

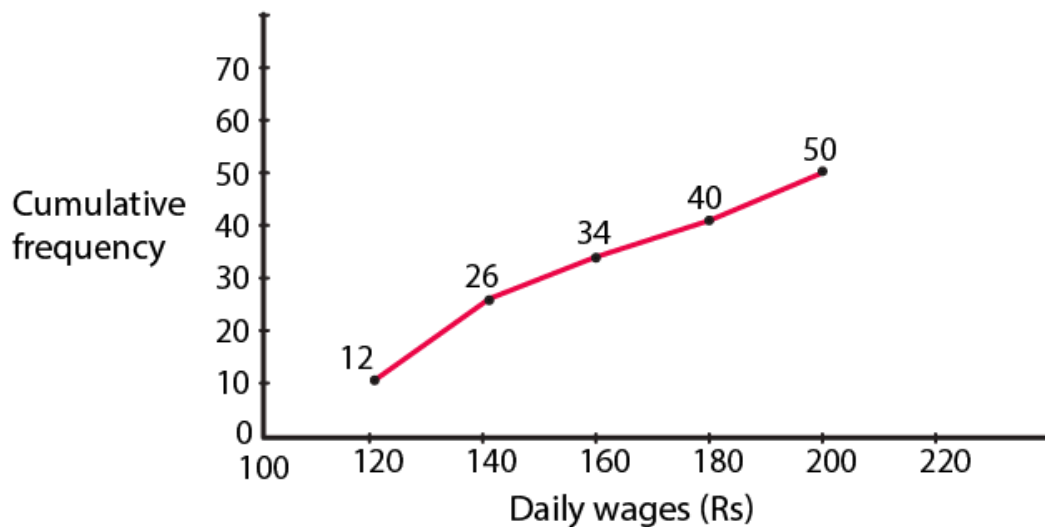
Convert the above distribution to a 'less than' type cumulative frequency distribution and draw its ogive.

Solution:

Firstly, we prepare the cumulative frequency table by less than method as given below:

Daily income	Cumulative frequency
Less than 120	12
Less than 140	26
Less than 160	34
Less than 180	40
Less than 200	50

Now we mark on the x-axis upper class limit, y-axis cumulative frequencies. Thus we plot the point (120, 12), (140, 26), (160, 34), (180, 40), (200, 50).



Benefits of Solving RD Sharma Solutions Class 10 Maths Chapter 7 Exercise 7.6

Solving RD Sharma Solutions Class 10 Maths Chapter 7 Exercise 7.6 (Statistics) offers multiple benefits for students. Here are some key advantages:

1. Strengthens Conceptual Understanding

Exercise 7.6 focuses on Statistics, particularly problems related to measures like mean, median, mode, and their applications.

By solving these problems, students gain a deep understanding of statistical concepts and their significance in data analysis.

2. Enhances Problem-Solving Skills

RD Sharma's problems are designed to challenge students' problem-solving abilities.

Students learn to approach problems step-by-step, which is critical for exams like the CBSE Class 10 Board Exam.

3. Improves Calculation Speed and Accuracy

Statistics problems often require calculations involving large data sets, averages, and frequencies.

Regular practice helps improve speed and accuracy in these calculations, reducing errors during exams.

4. Prepares for Board Exams

The exercise includes a variety of questions, from basic to advanced level, aligned with the CBSE syllabus.

This comprehensive preparation ensures students are well-prepared for board exam questions based on Statistics.

5. Builds Analytical Thinking

Statistics involves interpreting data, understanding trends, and making logical conclusions.

Solving Exercise 7.6 trains students to analyze and interpret data effectively, a skill valuable in academics and real-life applications.