24. Data Handling-II (Graphical Representation of Data as Pie Charts

Exercise 24.1

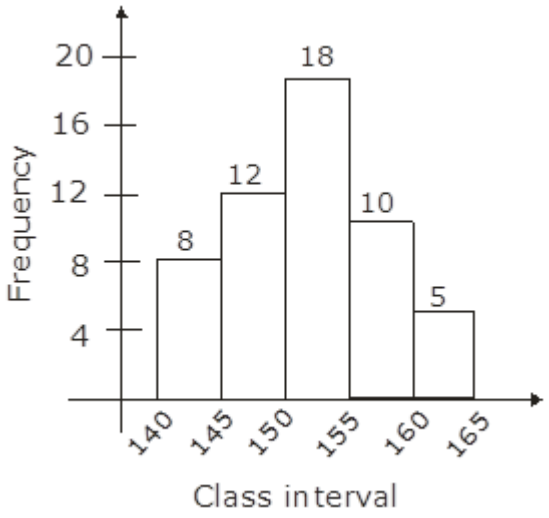
1. Question

Given below is the frequency distribution of the heights of 50 students of a class:

Class interval:	140-145	145-150	150-155	155-160	160-165
Frequency:	8	12	18	10	5

Draw a histogram representing the above data.

Answer



We have drowned the histogram by using the class-interval and frequency given in the question. The hight of the rectangle in the histogram shows the frequencies of class intervals.

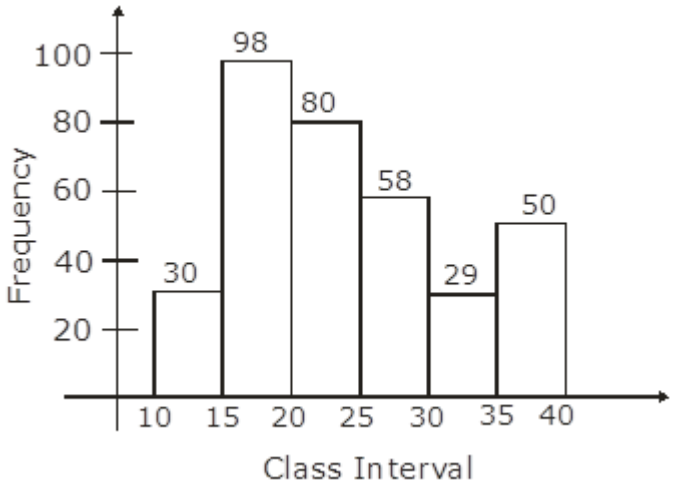
2. Question

Draw a histogram of the following data:

Class interval:	10-15	15-20	20-25	25-30	30-35	35-40
Frequency:	30	98	80	58	29	50

Answer

By drawing class interval at ‘x’ axis and frequency at ‘y’ axis.



We have drowned the histogram by using the class-interval and frequency given in the question.

3. Question

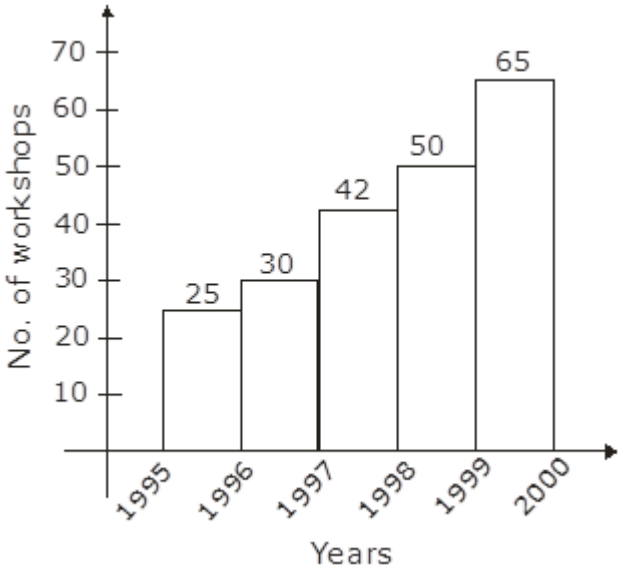
Number of workshops organized by a school in different areas during the last five years are follows:

Years	No. of workshops
1995-1996	25
1996-1997	30
1997-1998	42
1998-1999	50
1999-2000	65

Draw a histogram representing the above data:

Answer

By drawing years on ‘x’ axis and number on workshops on ‘y’ axis .



We have drowned the histogram by using the No. of workshops and years given in the question.

4. Question

In a hypothetical sample of 20 people the amounts of money with them were found to be as follows:

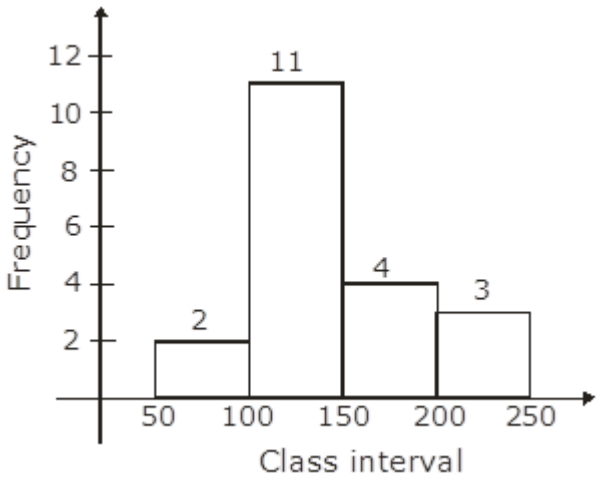
114, 108, 100, 98, 101, 109, 117, 119, 126, 131, 136, 143, 156, 168, 182, 195, 207, 219, 235, 118.

Draw the histogram of the frequency distribution (taking one of the class intervals as 50-100).

Answer

Class interval	Frequency
50 – 100	2
100 – 150	11
150 – 200	4
200 – 250	3

By drawing class interval on ‘x’ axis and frequency on ‘y’ axis. The height of histogram shows the frequency for particular class interval.



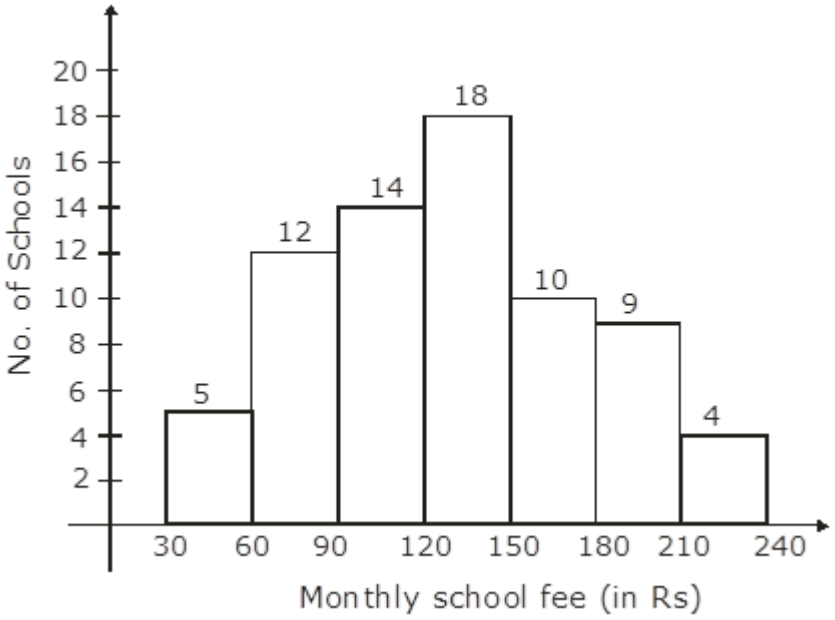
5. Question

Construct a histogram for the following data:

Monthly school Fee (in Rs)	30-60	60-90	90-120	120-150	150-180	180-210	210-240
Number of Schools :	5	12	14	18	10	9	4

Answer

By drawing monthly school fee on 'x' axis and number of schools on 'y' axis.



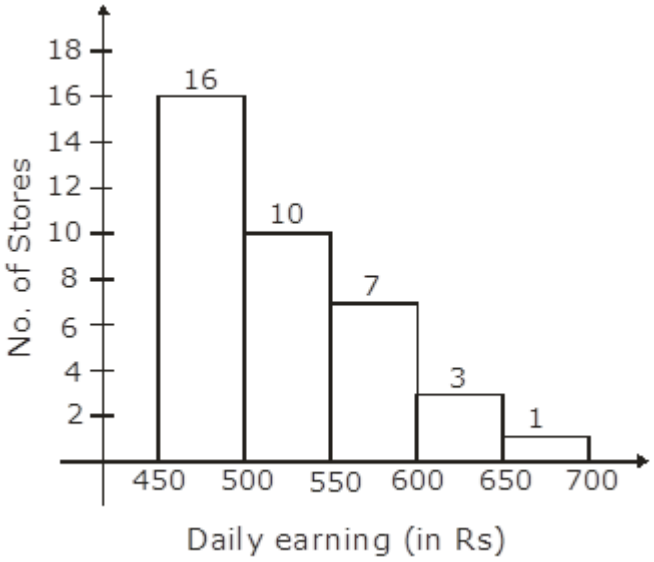
6. Question

Draw a histogram for the daily earnings of 30 drug stores in the following table:

Daily earning (in Rs.)	450-500	500-550	550-600	600-650	650-700
Number of Stores:	16	10	7	3	1

Answer

By drawing daily earnings on ‘x’ axis and number of stores on ‘y’ axis.



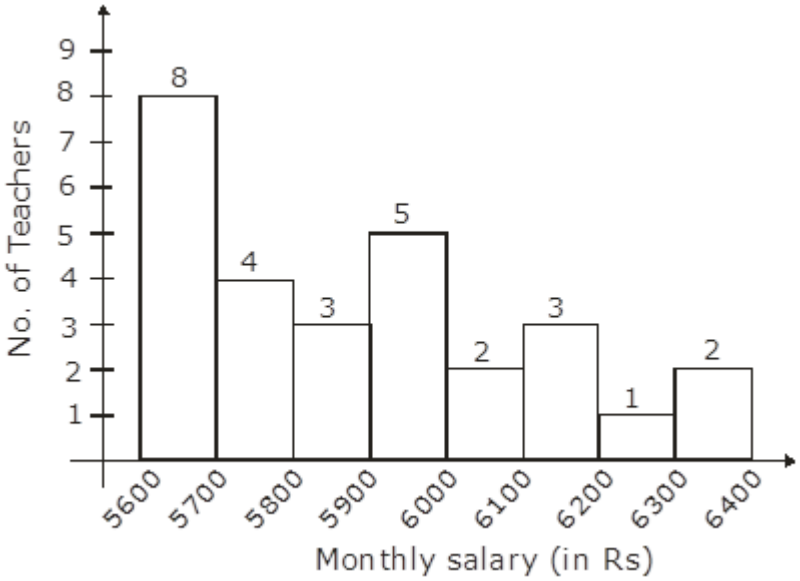
7. Question

Draw a histogram to represent the following data :

Monthly salary (in Rs)	Number of teachers
5600-5700	8
5700-5800	4
5800-5900	3
5900-6000	5
6000-6100	2
6100-6200	3
6200-6300	1
6300-6400	2

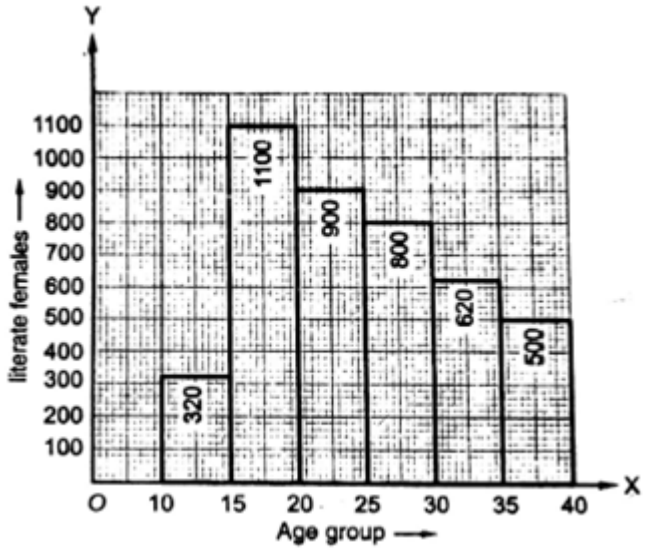
Answer

By drawing monthly salary on ‘x’ axis and numbers of teacher on ‘y’ axis.



8. Question

The following histogram shows the number of literate females in the age group of 10 to 40 years in a town:



(i) Write the age group in which the number of literate female is the highest.

(ii) What is the class width?

(iii) What is the lowest frequency?

(iv) What are the class marks of the classes?

(v) In which age group literate females are the least?

Answer

(i) Age group 15-20 has the highest number of literate female.

(ii) Class width = 5 years

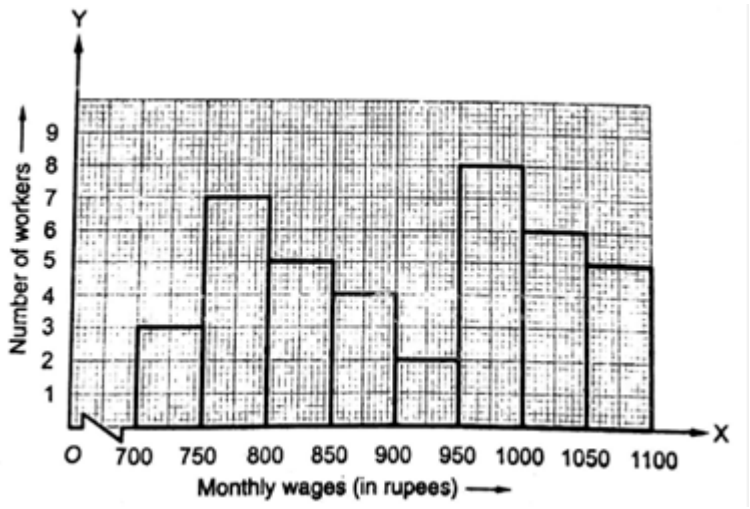
(iii) Lowest frequency = 320

(iv) Class marks of classes = average of class intervals = 17.5, 25, 32.5, 40, 47.5, 55

(v) Age group of 10-15 has the lowest literate females.

9. Question

The following histogram shows the monthly wages (in Rs) of workers in a factory:



(i) In which wage-group the largest numbers of worders are being kept? What is their number?

(ii) What wages are the least number of workers getting? What is the number of such workers?

(iii) What is the total number of workers?

(iv) What is the factory size?

Answer

(i) Wage-group 950-1000 has the largest numbers of workers and their number is 8.

(ii) Wages 900-950 is getting the least number of workers. The number of such workers is 2.

(iii) Total number of workers = total no. of frequencies = 3+7+5+4+2+8+6+5 = 40

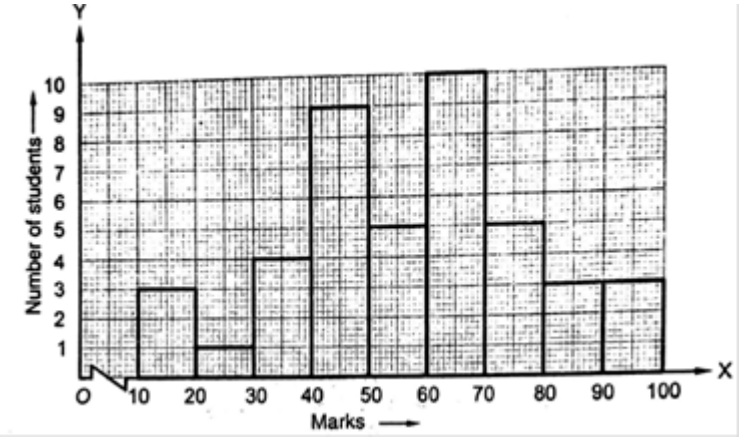
(iv) Factory size = 50

10. Question

Below is the histogram depicting marks obtained by 43 students of a class:

(i) Write the number of students getting the highest marks.

(ii) What is the class size?



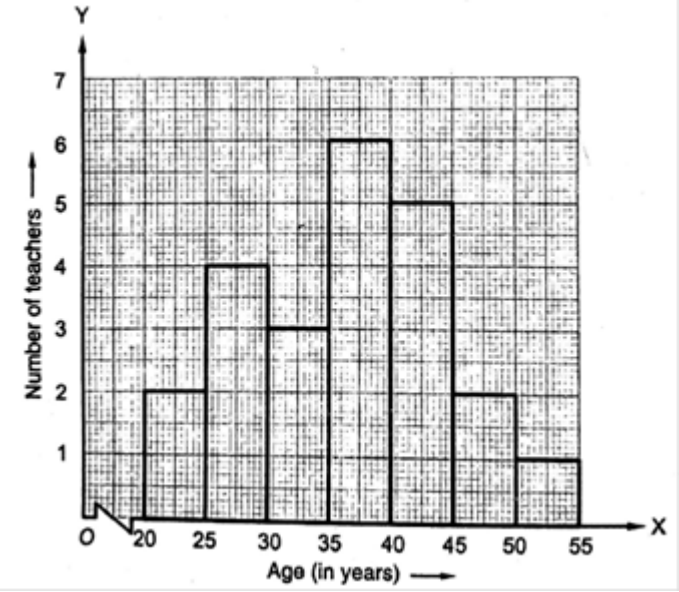
Answer

(i) Number of students getting the highest marks = 3

(ii) Class size = 10

11. Question

The following histogram shows the frequency distribution of the ages of 22 teachers in a school:



(i) What is the number of eldest and youngest teachers in the school?

(ii) Which age group teachers are more in the school and which least?

(iii) What is the size of the classes?

(iv) What are the class marks of the classes?

Answer

(i) The number of eldest teacher = 1

youngest teachers in the school = 2

(ii) 35-40 age group teachers are more in the school.

50-55 age group teachers are least.

(iii) Size of the classes = 5 years

(iv) Class marks of the classes = average of class intervals = 32.5, 40, 47.5, 55, 62.5, 70, 77.5

12. Question

The weekly wages (in Rs.) of 30 workers in a factory are given:

830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 835, 836, 878, 840, 868, 890, 806, 840

Mark a frequency table with intervals as 800-810, 810-820 and so on, using tally marks.

Also, draw a histogram and answer the following questions:

(i) Which group has the maximum number of workers?

(ii) How many workers earn Rs. 850 and more?

(iii) How many workers earn less then Rs, 850?

Answer

Class interval	Frequency
800 – 810	4
810 – 820	2
820 – 830	1
830 – 840	11
840 – 850	2
850 – 860	2

860 – 870	2
870 – 880	1
880 – 890	4
890-900	1

(i) Group have maximum workers = (830 – 840)

(ii) Workers have earning more than Rs.850 = 2+1+4+1+2 = 10

(iii) Worker earns less than Rs.850 = 4+2+1+11+2 = 20.

Histogram: by drawing class interval on ‘x’ axis and number of workers on ‘y’ axis.