

10. create a frequency histogram using six classes for the following data.

16, 84, 76, 103, 92

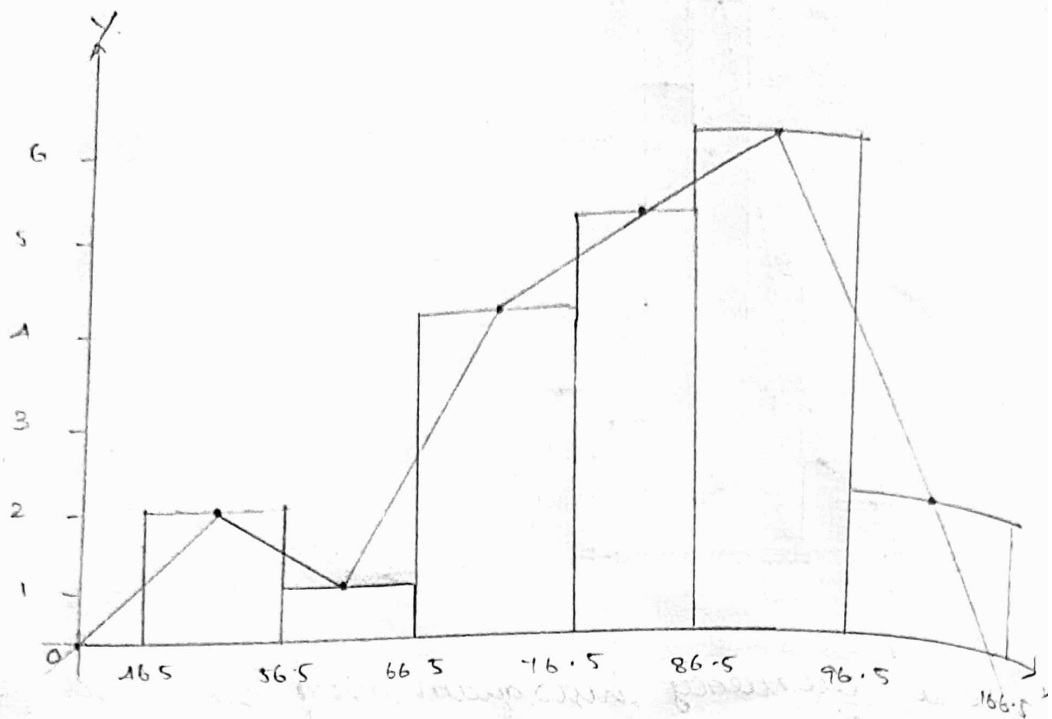
47, 98, 54, 80, 91,

69, 86, 83, 75, 93.

89, 96, 65, 94, 85.

$$\text{class width} = \frac{\text{Range}}{\text{No. of class}} = \frac{103 - 47}{6} = \frac{56}{6} = 9.37 \approx 10.$$

class interval	frequency	true interval $-0.5 + 0.5$
47 - 56	2	46.5 - 56.5
57 - 66	1	56.5 - 66.5
67 - 76	4	66.5 - 76.5
77 - 86	5	76.5 - 86.5
87 - 96	6	86.5 - 96.5
97 - 106	2	96.5 - 106.5



cumulative frequency curve (or) ogive.

When frequencies are added we call it as cumulative frequencies when such cumulative frequencies are plotted in graph we get a curve called cumulative frequency curve (or) ogive. There are two methods of constructing ogive.

1) Less than method.

2) More than method.

Less than method:

In this method, the cumulative frequency is related to upper limits of the class and is obtained by adding the frequencies of the class.

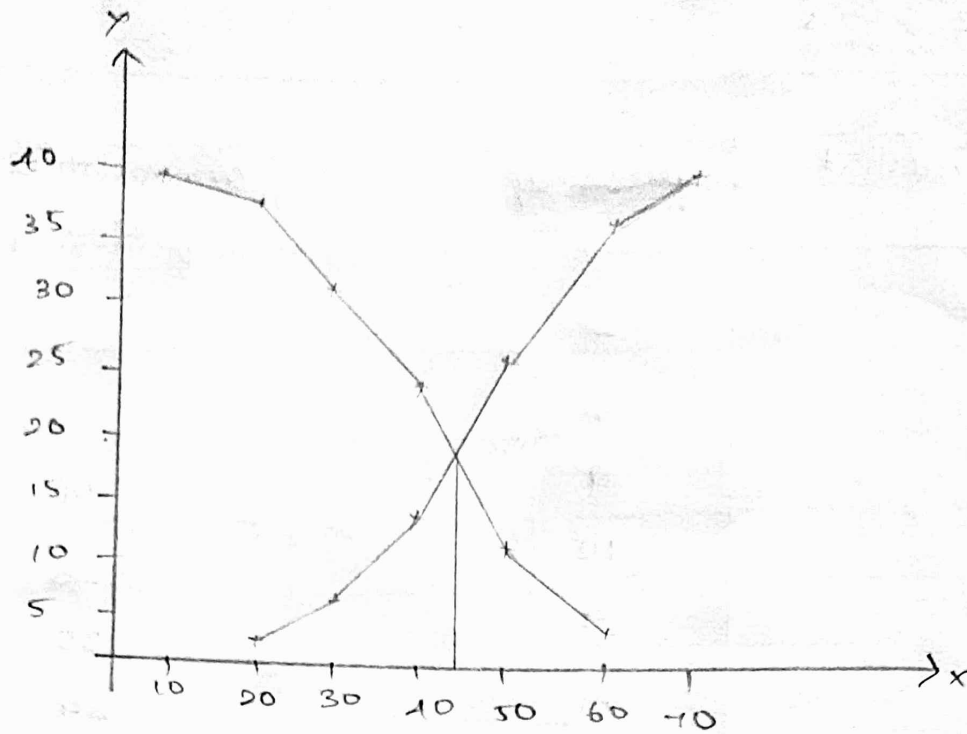
More than method:

In this method, the cumulative frequency is related to lower limits of the classes and is obtained by subtracting each frequency of the class from the cumulative total.

C.I	10-20	20-30	30-40	40-50	50-60	60-70
frequency	2	5	7	12	9	4
						=39

less than method.	frequency	cumulative frequency
20	2	2
30	5	7
40	7	14
50	12	26
60	9	35
70	4	39

more than method	frequency	cumulative frequency
10	2	39
20	5	37
30	7	32
40	12	25
50	9	13
60	4	4



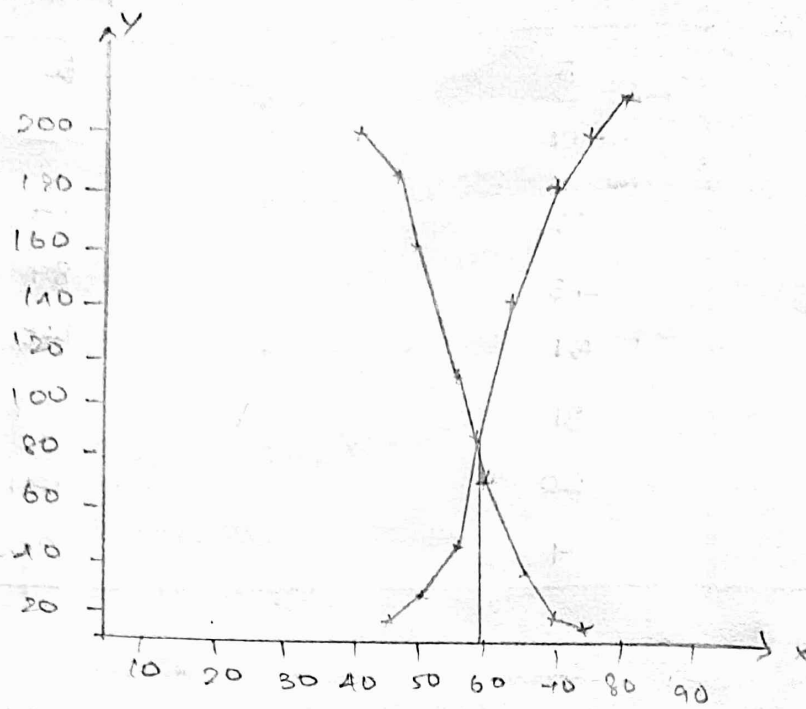
1. Find the median for the following data using Ogive

weight (in kg)	40-45	45-50	50-55	55-60	60-65	65-70
NO. of students	5	17	22	45	51	31

70-75
20.

less than method	Frequency	cummulative frequency.
45	5	5
50	17	22
55	22	44
60	45	89
65	51	140
70	31	171
75	20	191
80	9	200.

more than method	Frequency	cummulative frequency.
40	5	200
45	17	183
50	22	161
55	45	116
60	51	65
65	31	34
70	20	14
75	9	5



Determine the median for the following-

weight (in kg)	30-34	35-39	40-44	45-49	50-54
Students	6	9	12	9	5
weight (in kg)	29.5-34.5	34.5-39.5	39.5-44.5	44.5-49.5	49.5-54
Students	6	9	12	9	5
less than method	frequency		cumulative frequency		
34.5	6		6		
39.5	8		14		
44.5	12		26		
49.5	9		35		
54.5	5		40		

More than method	frequency	cumulative frequency.
29.5	6	10
34.5	8	22
39.5	12	20
44.5	9	11
49.5	5	6

