

Ex 14.3 Class 9 Maths Question 4.

The length of 40 leaves of a plant measured correct to one millimetre and the obtained data is represented in the following table

Length (in mm)	Number of leaves
118 - 126	3
127 - 135	5
136 - 144	9
145 - 153	12
154 - 162	5
163 - 171	4
172 - 180	2

- (i) Draw a histogram to represent the given data.
- (ii) Is there any other suitable graphical representation for the same data?
- (iii) Is it correct to conclude that the maximum number of leaves 153 mm long and Why?

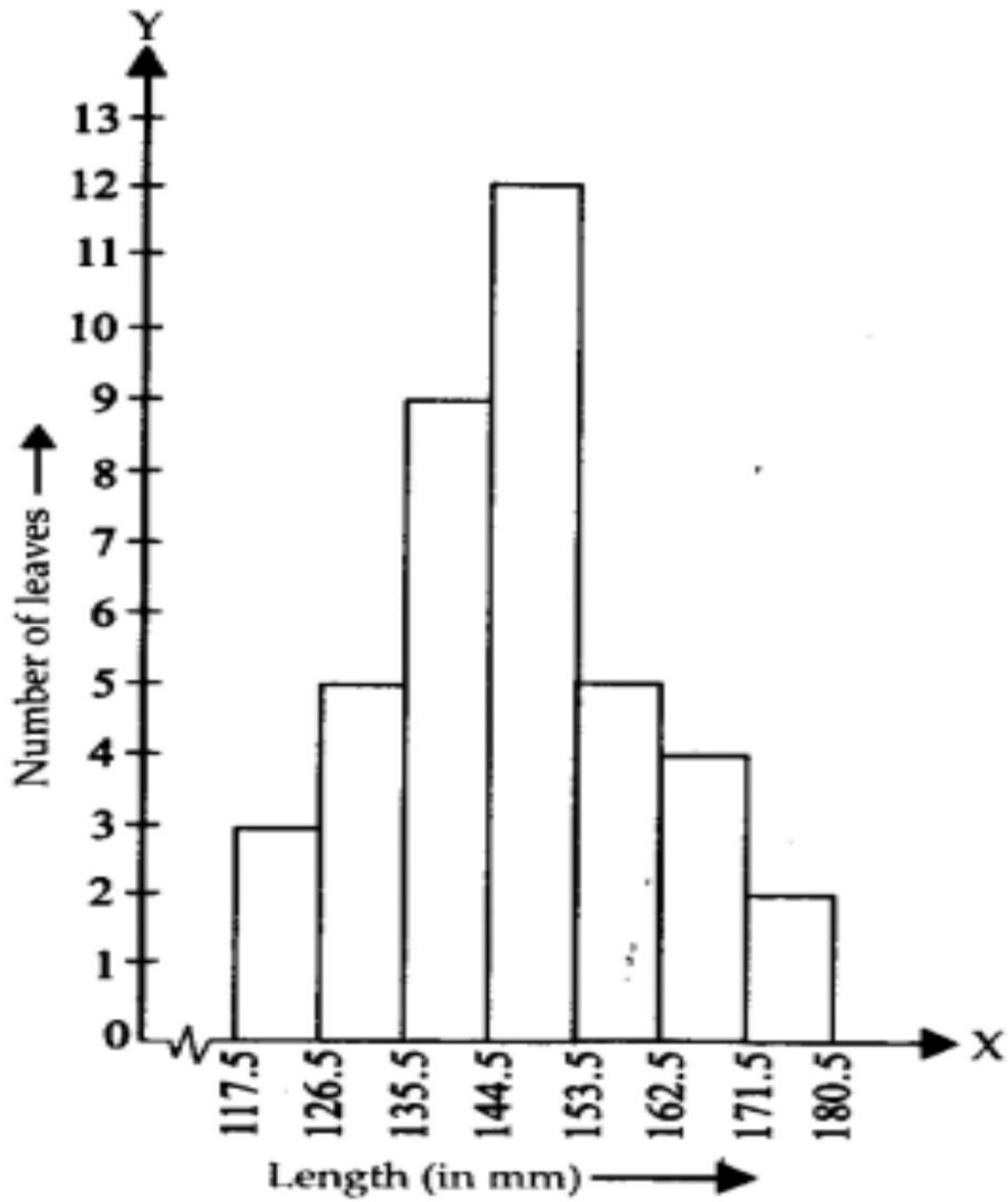
Solution:

- (i) The given frequency distribution table is not continuous. Therefore, first we have to modify it to be continuous distribution.

Thus, the modified frequency distribution table is:

Length (in mm)	Number of leaves
117.5 - 126.5	3
126.5 - 135.5	5
135.5 - 144.5	9
144.5 - 153.5	12
153.5 - 162.5	5
162.5 - 171.5	4
171.5 - 180.5	2

Now, the required histogram of the frequency distribution is shown below :



(ii) Yes, other suitable graphical representation is a 'frequency polygon'.

(iii) No, it is not a correct statement. The maximum number of leaves lie in the class interval 145 – 153

Question 5.

The following table gives the lifetimes of 400 neon lamps

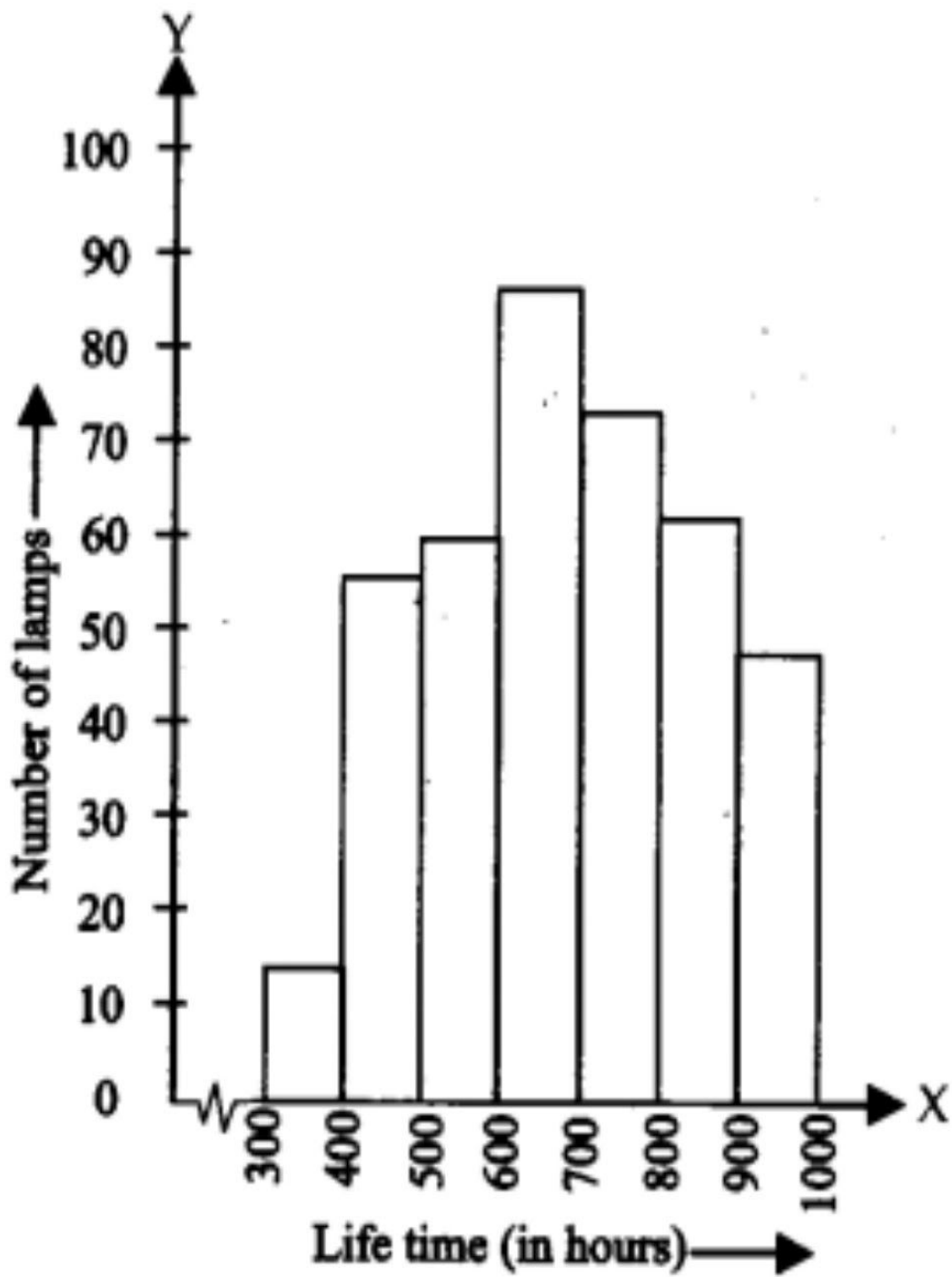
Life time (in hours)	Number of lamps
300 - 400	14
400 - 500	56
500 - 600	60
600 - 700	86
700 - 800	74
800 - 900	62
900 - 1000	48

(i) Represent the given information with the help of a histogram.

(ii) How many lamps have a lifetime of more 700 h?

Solution:

(i) The required histogram is shown below



(ii) Number of lamps having life time of more than 700 hours = $74 + 62 + 48 = 184$