Assignment 3

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CBSE 9th Statistics

Question: (Exercise 14.3 Q4) $\Rightarrow$ The length of 40 leaves of a plant are measured correct to one milimetre,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

TABLE I

(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 are 153 mm long ? why?

Solution:

(i) The data given in the question is represented in discountinuous class interval. So, we have to make it in continuous class interval.the difference is 1,so taking half of 1 ,we subtract $1/2 = 0.5$ from lower limit and add 0.5 to the upper limit.Then the table becomes:

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

TABLE II

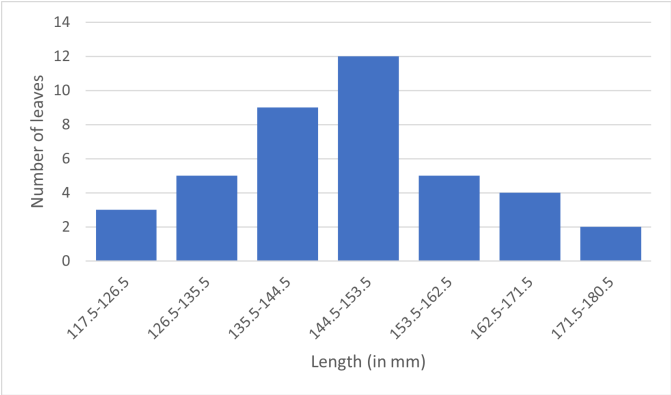

Fig. 1.

(ii) Yes ,the data given in the question can also be represented by frequency polygon.

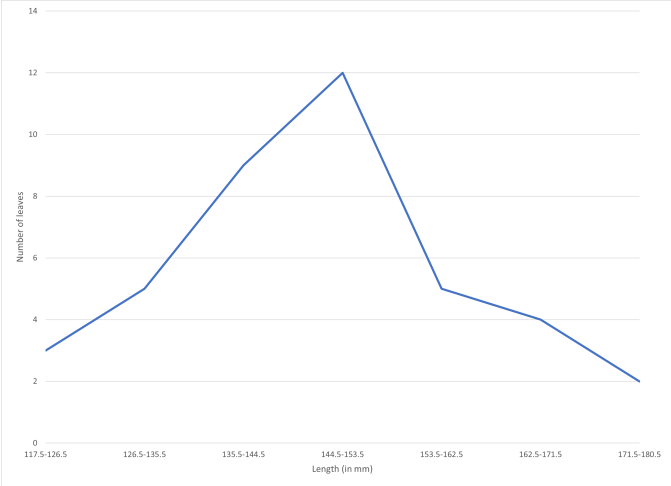

Fig. 2.

(iii) No,we cannot conclude that the maximum number of leaves are 153mm long because the maximum number of leaves are lying in-between the length of $144.5 - 153.5$