

# Assignment 3, AI1110

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**Abstract**—This document provides a solution to NCERT Class 9 Statistics Example 8.

**Example 8:** Consider the marks, out of 100, obtained by 51 students in a test, given in the following table. Draw a frequency polygon corresponding to this frequency distribution table.

Marks	Number of Students
0-10	5
10-20	10
20-30	4
30-40	6
40-50	7
50-60	3
60-70	2
70-80	2
80-90	3
90-100	9
Total	51

TABLE I  
STUDENTS CATEGORIZED BY MARKS

Intervals	C	f
(-10)-0	-5	0
0-10	5	5
10-20	15	10
20-30	25	4
30-40	35	6
40-50	45	7
50-60	55	3
60-70	65	2
70-80	75	2
80-90	85	3
90-100	95	9
100-110	105	0
Total		51

TABLE III  
CLASS-MARKS

**Solution:** Some useful parameters are,

C	Class-mark
L	Lower limit
U	Upper limit
f	Frequency

TABLE II  
DEFINITIONS

In a frequency polygon, the frequencies of intervals are plotted against their class-marks. Class-marks are the mid-points of class intervals, given by

$$C = \frac{U + L}{2} \quad (1)$$

Two imaginary classes with zero frequency are added beside the lowest and highest classes. They help complete the polygon which is obtained by joining the plotted points.

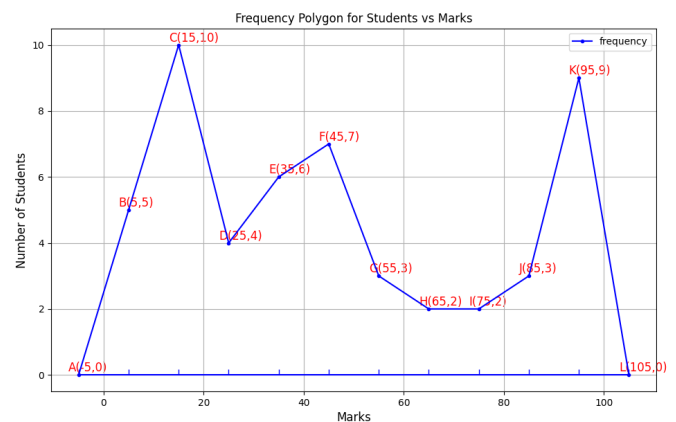


Fig. 1. Frequency polygon of students vs marks