

1. Measures of central tendency

1. The results of a mathematics test that a hundred students took are as shown below:-

Marks	No. of students
30-34	4
35-39	6
40-44	10
45-49	14
50-54	X
55-59	24
60-64	14
65-69	6

- (a) Determine (i) the value of **X**
(ii) The modal class
(b) Calculate the mean
(c) The median

2. Without using logarithms or calculator evaluate:
 $2\log_{10}5 - 3\log_{10}2 + \log_{10}32$

3. The table below shows heights of 50 students :-

Height (cm)	Frequency
140-144	3
145-149	15
150-154	19
155-159	11
160-164	2

- (a) State the modal class
(b) Calculate the median height

4. In an experiment, the height of 100 seedlings were measured to the nearest centimeter and the results were recorded as shown below;

Height (cm)	20-24	25-29	30-34	35-39	40-44	45-49
Frequency	3	19	25	20	18	15

Calculate the median height

5. Given that $x = -4$ is a root of the equation $2x^2 + 6x - 2k = 0$; Find;
 (a) the value of k
 (b) the second root

Marks	60 – 62	63 – 68	69 – 73	74 – 80
Frequency	10	20	40	15

7. The table below shows the distribution of marks obtained by some candidates in a mathematics test

Marks	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No. of candidates	2	3	10	12	8	3	2
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- a) state the total number of candidates who sat the test
 b) state the modal class
 c) calculate the mean mark using an assumed mean of 64.5 marks
 d) calculate the median mark
8. Find these statistics of the following data 4, 2, 2, 6, 1, 3, 4, 1, 4
 a) Mode
 b) Median
 c) Mean
9. (a) The marks scored by a group of form two students in a mathematical test were as recorded in the table below:-

Marks	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency	1	2	4	7	10	16	20	6	3	1

- (a) (i) State the modal class
 (ii) Determine the class in which the median mark lies
 (iii) Using an assumed mean of 54.5, calculate the mean mark
10. Six weeks after planting, the height of maize plants were measured correct to the nearest centimeter. The frequency distribution is given in the table below:

Height (x)	$0 \leq x < 4$	$4 \leq x < 8$	$8 \leq x < 12$	$12 \leq x < 16$	$16 \leq x < 20$
Frequency	3	8	19	14	6

Estimate the median height of the plants

11. Below are marks scored by student in maths talk in science congress.

Marks	1 - 5	6 – 15	16 – 20	21 – 35	36 – 40	41 – 50
No. of students	1	3	6	12	5	3

Draw a histogram from the table above.