MATHEMATICS GRADE 11

UNIT 5 SUMMARY

PART II

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In this lesson, Students will learn about

- Measures of location for grouped data
- Measure of dispersion

Definitions:-

- Mean: - The sum of the data items divided by the number of items contained in the data set.
- Median: - The middle number when the data is arranged in either increasing or decreasing order of magnitude.
- Mode: - the value in the data which appears most frequently.
- Range: - the difference between the maximum and minimum values in the data set
- Variance: - the average of the squared deviation of each item from the mean.
- Standard deviation: - the positive square root of variance.

In grade 9 you have learnt about measure of location and dispersion and how to calculate from ungroup data (raw data). In this lesson we will see how to find the measures of location and dispersion from a group data.

Activity 1: - Find the Mean, Median, Mode, Range, Variance, and standard deviation of the following data

Class Limit	1-3	4-6	7-9	10-12	13-15	16-18	19-21
Frequency	1	9	25	35	17	10	3

Solution: - $\acute{x} = \frac{\sum x_c f_i}{\sum f_i} = \frac{1100}{100} = 11$

Class Limits	x_c	f_i	$x_c f_i$	$x_c - \acute{x}$	$(x_c - \acute{x})^2$	$f_i(x_c - \acute{x})^2$
1 – 3	2	1	2	-9	81	81
4 – 6	5	9	45	-6	36	324
7 – 9	8	25	200	-3	9	225
10 – 12	11	35	385	0	0	0
13 – 15	14	17	238	3	9	153
16 - 18	17	10	170	6	36	360
19 - 21	20	3	60	9	81	243
		100	1,100			1,386