CHAPTER 6: Measures of Dispersion

- these are statistical measures that summarize the amount of spread or variation in the distribution of values in a variable.	- the *more similar* the scores are to each other, *the lower* the measures of dispersion will be.
- it describes how values are spread within the distribution	- the *less similar* the scores are to each other, *the higher* the measures of dispersion will be.
- it also describe how similar a set of scores are to each other.	- in general, the *more spread out* a distribution is, *the larger* the measure of dispersion will be.

RANGE

- it is the difference between the largest and smallest number in a set of observation.	- the range is rarely used in scientific work as it is fairly insensitive.
- it is used mostly for quick and easy indication of variability.	- the range can be used when you are presenting your results to people with little or no knowledge of statistics.
- it can be used with ordinal or interval- ratio variables.	- two diff sets of data may have same range.
	1, 1, 1, 1, 9 vs 1, 3, 5, 7, 9

Range Formula:

Ungroup data	*Group Data*
Range= Highest Score - Lowest Score	Range= Highest Class Mark - Lowest Class Mark

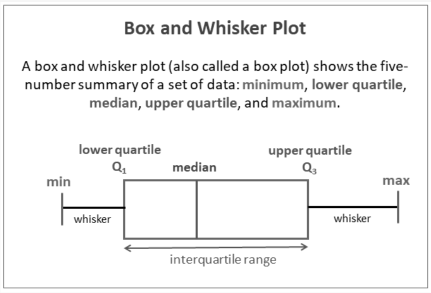
INTER- QUARTILE RANGE (IQR)

- it is defined as the difference of the first and third quartile of a data set.

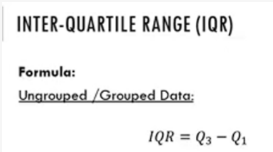
- it is a measure where the "middle fifty" lies in the data set.

- therefore, because it uses the middle 50%, it is not affected by outliers or extreme values.

INTER- QUARTILE RANGE (IQR)



INTER- QUARTILE RANGE (IQR)

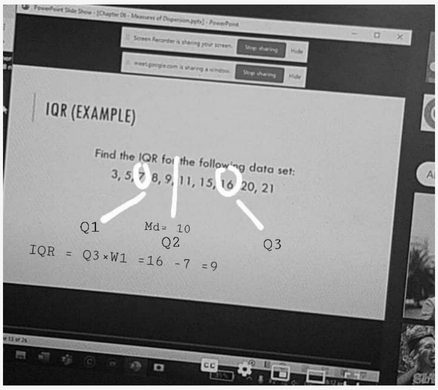


INTER- QUARTILE RANGE (IQR)

Q3 = also known as UPPER QUARTILE

Q1= also known as LOWER QUARTILE

INTER- QUARTILE RANGE (IQR)

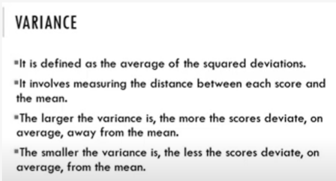


CHAPTER 6: Measures of Dispersion

2 IMPORTANT MEASURES OF DISPERSION

- variance
- standard deviation

VARIANCE



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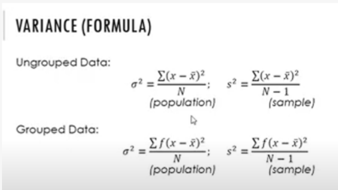

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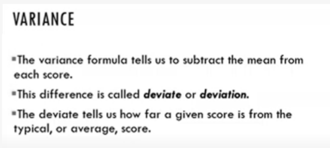

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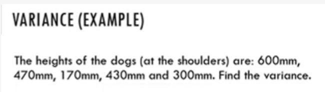

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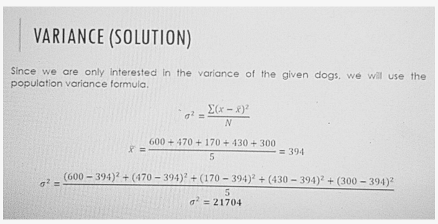
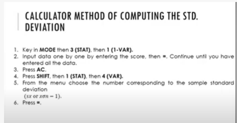
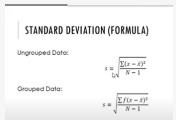


STANDARD DEVIATION



STANDARD DEVIATION



STANDARD DEVIATION