



# ASSESSMENT FOR LEARNING

## 1) UNGROUPED DATA

Mean Formula



$$\text{Mean} = \frac{\text{Sum of All Data Points}}{\text{Number of Data Points}}$$

## 2) GROUPED DATA

$$\text{Mean} = (\sum f_i x_i) / \sum f_i$$

3)

Median for Grouped Data



$$\text{Median} = l + \left[ \frac{\frac{n}{2} - c}{f} \right] \times h$$

Mode Formula



$$\text{Mode} = L + h \frac{(f_m - f_1)}{(f_m - f_1) + (f_m - f_2)}$$

## Standard Deviation Formula



Population	Sample
$\sigma = \sqrt{\frac{\sum(X - \mu)^2}{N}}$ <p>X - The Value in the data distribution <math>\mu</math> - The population Mean N - Total Number of Observations</p>	$s = \sqrt{\frac{\sum(X - \bar{x})^2}{n - 1}}$ <p>X - The Value in the data distribution <math>\bar{x}</math> - The Sample Mean n - Total Number of Observations</p>

7. The **basic formula** for a sample is:

$$z = (x - \mu) / \sigma$$

## 8. Standard Error of the Mean

When you have multiple samples and want to describe the standard deviation of those sample means (the standard error), you would use this z score formula:

$$z = (x - \mu) / (\sigma / \sqrt{n})$$

9 The t score formula is:

$$t = \frac{\bar{x} - \mu_0}{s / \sqrt{n}}$$

Where

$\bar{x}$  = sample mean

$\mu_0$  = population mean

s = sample standard deviation

n = sample size

## 10 Formula of Correlation Coefficient

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$