Important Measures of Central Tendency Formulas PDF

Formulas
Examples
with Units

List of 11
Important Measures of Central Tendency Formulas

1) Mean Formulas

1.1) Combined Mean of Multiple Data Formula

Evaluate Formula

Formula

$$\mu_{Combined} = \frac{\left(N_X \cdot \mu_X\right) + \left(N_Y \cdot \mu_Y\right)}{N_X + N_Y}$$

Example

$$44 = \frac{\left(40 \cdot 36\right) + \left(80 \cdot 48\right)}{40 + 80}$$

1.2) Mean of Data Formula

Evaluate Formula

Formula

$$Mean = \frac{\Sigma x}{N_{Values}}$$

Example

$$75 = \frac{750}{10}$$

1.3) Mean of Data given Coefficient of Variation Formula

Evaluate Formula

Formula

$$Mean = \frac{\sigma}{CV}$$

Example

$$83.3333 = \frac{25}{0.3}$$

1.4) Mean of Data given Coefficient of Variation Percentage Formula

Evaluate Formula

Formula

$$Mean = \left(\frac{\sigma}{CV_{\%}}\right) \cdot 100$$

Example

$$75.7576 = \left(\frac{25}{33}\right) \cdot 100$$

1.5) Mean of Data given Median and Mode Formula

Evaluate Formula

Formula

$$Mean = \frac{\left(3 \cdot Median\right) - Mode}{2}$$

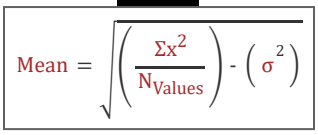
Example

$$75 = \frac{\left(3 \cdot 70\right) - 60}{2}$$

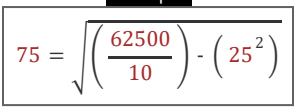
1.6) Mean of Data given Standard Deviation Formula

Evaluate Formula

Formula



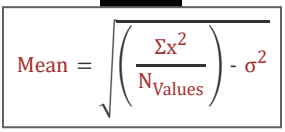
Example



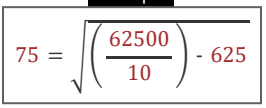
1.7) Mean of Data given Variance Formula

Evaluate Formula

Formula



Example

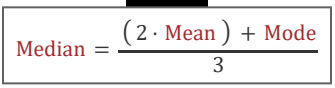


2) Median Formulas

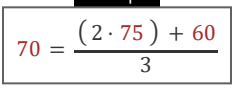
2.1) Median of Data given Mean and Mode Formula

Evaluate Formula

Formula



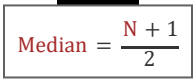
Example



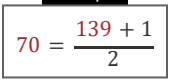
2.2) Median of First N Natural Numbers Formula

Evaluate Formula

Formula



Example



3) Mode Formulas

3.1) Mode of Data given Mean and Median Formula

Evaluate Formula

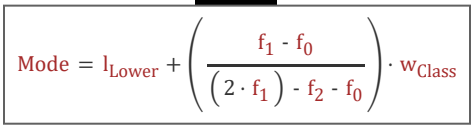
Formula

Example

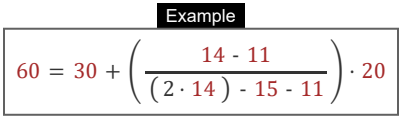
3.2) Mode of Grouped Data Formula

Evaluate Formula

Formula



Example



Variables used in list of Measures of Central Tendency Formulas above

- **CV** Coefficient of Variation
- $CV_{\%}$ Coefficient of Variation Percentage
- f_0 Frequency of Class Preceding the Modal Class
- f_1 Frequency of Modal Class
- f_2 Frequency of Class Succeeding the Modal Class
- l_{Lower} Lower Limit of Modal Class
- **Mean** Mean of Data
- **Median** Median of Data
- **Mode** Mode of Data
- **N** Value of N
- N_{Values} Number of Individual Values
- N_X Sample Size of Random Variable X
- N_Y Sample Size of Random Variable Y
- w_{Class} Class Width of Data
- $\mu_{Combined}$ Combined Mean of Multiple Data
- μ_X Mean of Random Variable X
- μ_Y Mean of Random Variable Y
- σ Standard Deviation of Data
- σ^2 Variance of Data
- Σx Sum of Individual Values
- Σx^2 Sum of Squares of Individual Values

Constants, Functions, Measurements used in list of Measures of Central Tendency Formulas above

- Functions: **sqrt**, sqrt(Number)
  A square root function is a function that takes a non-negative number as an input and returns the square root of the given input number.

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