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Coefficients, Proportion and Regression Formulas

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List of 14 Coefficients, Proportion and Regression Formulas

Coefficients, Proportion and Regression 🔗

Coefficients 🔗

1) Coefficient of Mean Deviation 🔗

Open Calculator 🔗

$$fx \quad \mathrm{CM} = \frac{\mathrm{MD}}{\mu}$$

$$ex \quad 0.4 = \frac{4}{10}$$

2) Coefficient of Mean Deviation Percentage 🔗

Open Calculator 🔗

$$fx \quad \mathrm{CM}_\% = \left(\frac{\mathrm{MD}}{\mu} \right) \cdot 100$$

$$ex \quad 40 = \left(\frac{4}{10} \right) \cdot 100$$

3) Coefficient of Quartile Deviation

fx $$CQ = \frac{Q_3 - Q_1}{Q_3 + Q_1}$$

Open Calculator

ex $$0.5 = \frac{60 - 20}{60 + 20}$$

4) Coefficient of Range

fx $$CR = \frac{L - S}{L + S}$$

Open Calculator

ex $$0.8 = \frac{45 - 5}{45 + 5}$$

5) Coefficient of Variation given Variance

fx $$CV = \frac{\sqrt{\sigma^2}}{\mu}$$

Open Calculator

ex $$0.7 = \frac{\sqrt{49}}{10}$$

6) Coefficient of Variation Percentage

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

Open Calculator

ex $$70 = \left(\frac{7}{10}\right) \cdot 100$$

7) Coefficient of Variation Ratio ⤢

fx $$CV = \frac{\sigma}{\mu}$$

ex $$0.7 = \frac{7}{10}$$

Proportion ⤢

8) Pooled Sample Proportion ⤢

fx $$P_{Pooled} = \frac{(N_X \cdot P_X) + (N_Y \cdot P_Y)}{N_X + N_Y}$$

ex $$0.75 = \frac{(10 \cdot 0.6) + (30 \cdot 0.8)}{10 + 30}$$

9) Population Proportion ⤢

fx $$P_{Population} = \frac{N_{Success}}{N_{Population}}$$

ex $$0.4 = \frac{20}{50}$$

10) Sample Proportion 📲

fx $P_{Sample} = \dfrac{N_{Success}}{N}$

Open Calculator 📲

ex $0.5 = \dfrac{20}{40}$

Regression 📲

11) Regression Coefficient 📲

fx $b_1 = \dfrac{\bar{y} - b_0}{\bar{x}}$

Open Calculator 📲

ex $5 = \dfrac{200 - 50}{30}$

12) Regression Coefficient given Correlation 📲

fx $b_1 = r \cdot \left(\dfrac{\sigma_Y}{\sigma_X} \right)$

Open Calculator 📲

ex $5 = 2 \cdot \left(\dfrac{150}{60} \right)$

13) Regression Constant 📲

fx $b_0 = \bar{y} - (b_1 \cdot \bar{x})$

Open Calculator 📲

ex $50 = 200 - (5 \cdot 30)$

14) Simple Linear Regression Line ⤢

fx $\boxed{Y = b_0 + (b_1 \cdot X)}$

Open Calculator ⤢

ex $\boxed{100 = 50 + (5 \cdot 10)}$

Variables Used

- b_0 Regression Constant
- b_1 Regression Coefficient
- CM Coefficient of Mean Deviation
- $CM_{\%}$ Coefficient of Mean Deviation Percentage
- CQ Coefficient of Quartile Deviation
- CR Coefficient of Range
- CV Coefficient of Variation
- $CV_{\%}$ Coefficient of Variation Percentage
- L Largest Item in Data
- MD Mean Deviation of Data
- N Sample Size
- $N_{Population}$ Population Size
- $N_{Success}$ Number of Successes
- N_X Size of Sample X
- N_Y Size of Sample Y
- P_{Pooled} Pooled Sample Proportion
- $P_{Population}$ Population Proportion
- P_{Sample} Sample Proportion
- P_X Proportion of Sample X
- P_Y Proportion of Sample Y
- Q_1 First Quartile of Data

- Q_3 Third Quartile of Data

- r Correlation between X and Y

- S Smallest Item in Data

- X Independent Random Variable X

- $\bar{x}$ Mean of X

- Y Dependent Random Variable Y

- $\bar{y}$ Mean of Y

- μ Mean of Data

- σ Standard Deviation of Data

- σ_X Standard Deviation of X

- σ_Y Standard Deviation of Y

- σ^2 Variance of Data

Constants, Functions, Measurements used

- Function: **sqrt**, sqrt(Number)
  Square root function

Check other formula lists

- **Basic Formulas in Statistics** ⎋
- **Coefficients, Proportion and Regression Formulas** ⎋
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