

Variance

$$\text{Variance } (s^2) = \frac{\sum (x_i - \bar{x})^2}{n - 1}$$

x_i = a number in the group

\bar{x} = mean (average)

n = quantity of numbers in the group

Example:

$$x_1 = 15$$

$$x_2 = 13$$

$$x_3 = 17$$

$$x_4 = 7$$

$$\bar{x} = \frac{x_1 + x_2 + x_3 + x_4}{4}$$

$$= \frac{15 + 13 + 17 + 7}{4}$$

$$= \frac{52}{4}$$

$$= 13$$

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{n - 1}$$

$$= \frac{(15 - 13)^2 + (13 - 13)^2 + (17 - 13)^2 + (7 - 13)^2}{4 - 1}$$

$$= \frac{2^2 + 0^2 + 4^2 + (-6)^2}{3}$$

$$= \frac{4 + 0 + 16 + 36}{3}$$

$$= \frac{56}{3}$$

$$= 18.67$$