Variance & Standard Division

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$$\text{variance } (\sigma^2) = \frac{1}{n}\sum_{i=1}^{n}(x_i - \mu)^2$$

$$\sigma = \sqrt{\sigma^2}$$

$A = \{4, 6\}$

$\mu = \frac{10}{2}$

$= 5$

$\sigma^2 = \frac{(4-5)^2 + (6-5)^2}{2}$

$= \frac{1+1}{2}$

$= 1$

$\sigma = 1$

$B = \{1, 9\}$

$\mu = \frac{10}{2}$

$= 5$

$\sigma^2 = \frac{(1-5)^2 + (9-5)^2}{2}$

$= \frac{16+16}{2}$

$\sigma^2 = 16$

$\sigma = 4$

Sample →

$$\sigma^2 = \sum_{i=1}^{n}\frac{(x-\bar{x})}{(n-1)}$$