

Variance: $\frac{\text{Sum of square}}{\text{degree of freedom}}$

$$\text{Sum of square: } \sum X^2 - \frac{(\sum X)^2}{n}$$

Standard deviation: $\sqrt{\text{Variance}}$

Standard Error: $\frac{\text{Standard deviation}}{\sqrt{n}}$

$$\text{T-Value: } \frac{\bar{X}_1 - \bar{X}_2}{\text{SEDM}}$$

Least significant difference:

$$t \text{ Error d.f. } \propto \sqrt{2 \times \text{Error mean square repeats}(\alpha)}$$

chances of error

Chi-square test:

$$\chi^2 = \sum \frac{(\text{Observed value} - \text{Expected value})^2}{\text{Expected value}}$$