Formulas

$$z = \frac{x - \mu}{\sigma_x}$$

$$z = \frac{\bar{x} - \mu}{\sigma_{\bar{x}}}$$

$$t = \frac{\bar{x} - \mu}{s_{\bar{x}}}$$

$$SS = \sum x^2 - \frac{\left(\sum x\right)^2}{n}$$

$$SS = \sum (x - \bar{x})^2$$

$$SS = \sum (x - \mu)^2$$

$$s = \sqrt{\frac{SS}{df}}$$

$$\sigma = \sqrt{\frac{SS}{N}}$$

$$s^2 = \frac{SS}{df}$$

$$\sigma^2 = \frac{SS}{N}$$

$$s_{\bar{x}} = \frac{s}{\sqrt{n}}$$

$$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$$

$$t = \frac{\left(\bar{x}_1 - \bar{x}_2\right) - \left(\mu_1 - \mu_2\right)}{s_{\bar{x}_1 - \bar{x}_2}}$$

$$s_{\bar{x}_1 - \bar{x}_2} = \sqrt{\frac{s_p^2}{n_1} + \frac{s_p^2}{n_2}}$$

$$s_p^2 = \frac{SS_1 + SS_2}{df_1 + df_2}$$

$$s_p^2 = \frac{df_1 s_1^2 + df_2 s_2^2}{df_1 + df_2}$$