$$s^2 = \frac{\sum_{i=1}^{n}\left(x_i - \bar{x}\right)^2}{n-1}$$

$$u = \frac{z-\mu}{\sigma_z}\text{, pl.: } u = \frac{x-\mu}{\sigma}\text{, } u = \frac{\bar{x}-\mu}{\sigma/\sqrt{n}}$$

$$\chi^2 = \frac{s^2\nu}{\sigma^2}$$

$$t = \frac{z-E(z)}{s_z}; \qquad \text{pl.:} \qquad t = \frac{\bar{x}-\mu}{s/\sqrt{n}}$$

$$F(\nu_1,\nu_2) = \frac{s_1^2/\sigma_1^2}{s_2^2/\sigma_2^2}, \quad \text{ha } \sigma_1 = \sigma_2 \rightarrow F(\nu_1,\nu_2) = \frac{s_1^2}{s_2^2}$$

$$F_{1-\alpha}(\nu_1,\nu_2) = \frac{1}{F_\alpha(\nu_2,\nu_1)}$$

$$\bar{x} = \frac{\sum w_i p_i x_i}{\sum w_i p_i} \qquad a = \frac{\sum_i w_i p_i \bar{y}_i}{\sum_i w_i p_i} \qquad b = \frac{\sum_i w_i p_i \bar{y}_i\left(x_i - \bar{x}\right)}{\sum_i w_i p_i\left(x_i - \bar{x}\right)^2}$$

$$s_r^2 = \frac{\sum w_i p_i\left(\bar{y}_i - \hat{Y}_i\right)^2}{n-2} \qquad s_e^2 = \frac{\sum\sum w_i\left(y_{ik} - \bar{y}_i\right)^2}{\sum p_i - n}$$

$$s_a^2 = \frac{\hat{\sigma}^2}{\sum w_i p_i} \qquad s_b^2 = \frac{\hat{\sigma}^2}{\sum w_i p_i\left(x_i - \bar{x}\right)^2} \qquad s_{\hat{Y}}^2 = s_a^2 + s_b^2\left(x - \bar{x}\right)^2$$

$$P\left(\hat{x} - \Delta < X \le \hat{x} + \Delta\right) = 1 - \alpha \qquad \Delta = \frac{t_{\alpha/2}}{b_{\alpha/2}}\sqrt{\left(h^2(\hat{x})s^2 + s_a^2\right)\frac{b_{\alpha/2}}{b} + s_b^2\left(\hat{x} - \bar{x}\right)^2}$$

$$b >> s_b \qquad \Delta = \frac{t_{\alpha/2}}{b}\sqrt{h^2(\hat{x})\frac{s^2}{n} + s_a^2 + s_b^2\left(\hat{x} - \bar{x}\right)^2}$$