One Sample Hypothesis Testing

Population Values Known

$$Z = \frac{\overline{X} - \mu}{\sigma_{\overline{X}}} \qquad \sigma_{\overline{X}} = \frac{\sigma}{\sqrt{n}}$$

Population Values Not Know, n is Greater Than or Equal to 40

$$"Z" = \frac{\overline{X} - \mu_{hyp}}{s_{\overline{X}}} \qquad s_{\overline{X}} = \frac{s}{\sqrt{n}}$$

s – inferential statistic $\qquad s = \sqrt{\frac{SS_x}{n-1}}$

$$s_{\overline{X}} = \frac{S}{\sqrt{n-1}}$$

S – descriptive statistic $\qquad S = \sqrt{\frac{SS_x}{n}}$

$$SS_x = \sum X^2 - \frac{\left(\sum X\right)^2}{n}$$

Population Values Not Know, n is Less Than 40

$$t = \frac{\overline{X} - \mu_{hyp}}{s_{\overline{X}}} \qquad \text{df} = n - 1$$