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| **Test/Interval** | **Conditions** | **Standard Deviation/Error** | **Equation** |
| 1 Proportion z-interval | 1. Random
2. Success/Failure (np & nq > 10)
3. 10% condition (Pop >10*n)*
 |  $\sqrt{\frac{\hat{p}\hat{q}}{n}}$ |  $\hat{p}\pm Z^{\*}\sqrt{\frac{\hat{p}\hat{q}}{n}}=(a,b)$ |
| 1. Proportion z-test
 | 1. Random
2. Success/Failure (np & nq > 10)
3. 10% condition (Pop >10*n)*
 |  $\sqrt{\frac{pq}{n}}$ |  Ho: p = %Ha: p <, >, ≠%$$Z= \frac{\hat{p}-p}{\sqrt{\frac{pq}{n}}}$$ |
| 2 Proportion z-interval | 1. Independence
2. Random
3. Success/Failure
4. 10% condition
 |  $\sqrt{\frac{\hat{p}\_{1}\hat{q}\_{1}}{n\_{1}}+\frac{\hat{p}\_{2}\hat{q}\_{2}}{n\_{2}}}$ |  $(\hat{p}\_{1}- \hat{p}\_{2})\pm Z^{\*}\sqrt{\frac{\hat{p}\_{1}\hat{q}\_{1}}{n\_{1}}+\frac{\hat{p}\_{2}\hat{q}\_{2}}{n\_{2}}}$ |
| 1. Proportion z-test
 | 1. Independence
2. Random
3. Success/Failure
4. 10% condition
 |   $\sqrt{\frac{\hat{p}\hat{q}}{n\_{1}}+\frac{\hat{p}\hat{q}}{n\_{2}}}$$$\hat{p}= \frac{X\_{1}+X\_{2}}{n\_{2}+n\_{2}}$$ | Ho: p1 = p2Ha: p1 <, >, ≠ p2  Z = $\frac{\hat{p}\_{1}-\hat{p}\_{2}}{\sqrt{\frac{\hat{p}\hat{q}}{n\_{1}}+\frac{\hat{p}\hat{q}}{n\_{2}}}}$ |
| 1. Sample t-interval
 | 1. Random
2. 10% condition
3. Normality

(Normal population or n > 30) |  $$\left(\frac{s}{\sqrt{n}}\right)$$ |  $$\overbar{x}\pm t^{\*}\left(\frac{s}{\sqrt{n}}\right)$$ |
| 1. Sample t-test
 | 1. Random
2. 10% condition
3. Normality
 |  $$\left(\frac{s}{\sqrt{n}}\right)$$ | Ho: µ = #Ha: µ >, <, ≠ # $$t=\frac{\overbar{x}-μ}{^{s}/\_{\sqrt{n}}}$$ |
| 1. Sample t-interval
 | 1. Independence
2. Random
3. 10% condition
4. Normality
 |  $\sqrt{\frac{s\_{1}^{2}}{n\_{1}}+\frac{s\_{2}^{2}}{n\_{2}}}$ |  $\left(\overbar{x}\_{1}-\overbar{x}\_{2}\right)\pm t^{\*}\left(\sqrt{\frac{s\_{1}^{2}}{n\_{1}}+\frac{s\_{2}^{2}}{n\_{2}}}\right)$ |
| 1. Sample t-test
 | 1. Independence
2. Random
3. 10% condition
4. Normality
 |  $\sqrt{\frac{s\_{1}^{2}}{n\_{1}}+\frac{s\_{2}^{2}}{n\_{2}}}$ | Ho: µ1 = µ2   $$t=\frac{\overbar{x}\_{1}-\overbar{x}\_{2}}{\sqrt{\frac{s\_{1}^{2}}{n\_{1}}+\frac{s\_{2}^{2}}{n\_{2}}}}$$ |
| Paired t-interval | 1. Paired Data
2. Random
3. 10% condition
4. Normality
 |  $\frac{s\_{d}}{\sqrt{n\_{d}}}$ | $ \overbar{x}\_{d}\pm t^{\*}\left(\frac{s\_{d}}{\sqrt{n\_{d}}}\right)$  |
| Paired t-test | 1. Paired Data
2. Random
3. 10% condition
4. Normality
 |  $\frac{s\_{d}}{\sqrt{n\_{d}}}$  | Ho: µd = 0$t= \frac{\overbar{x}\_{d}-μ\_{d}}{\frac{s\_{d}}{\sqrt{n\_{d}}} }$  |
| Chi-Square test | 1. Categorical data
2. Random
3. Expected cell counts
 | NONE | $$χ^{2}=\sum\_{}^{}\frac{\left(obs-exp\right)^{2}}{exp}$$ |
|  Test for Linear Regression | 1. Random
2. Linear data
3. Independence
4. Normal residuals
5. Equal variance
 | SEb | Ho: β = 0$t=\frac{b\_{1}}{SE\_{b}}$  |