

Inferential statistics is very important so Fred and I made up this special review. Use it with the formula review beginning on the next page. Don't forget to look at cumulative review chapters 25 - 27.



### Executive Summary of Inferential Statistics

| Being Tested                                       | Sampling Distribution is Known   |   |                | Sampling Distribution is Unknown   |
|--|--|---|----------------|--|
|  | <b>Parametric Tests of the Mean and Proportion Using Interval and Ratio Data</b><br>use with<br><div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <u>Normal Population</u><br/>           Large Sample<br/> <math>\sigma</math> is known or unknown         </div> <div style="text-align: center;">           Small Sample<br/> <math>\sigma</math> is unknown<sup>1</sup> </div> <div style="text-align: center;"> <u>Skewed Population</u><br/>           Large Sample<br/> <math>\sigma</math> is known or unknown         </div> </div> |   |                | <b>Nonparametric Tests of the Median Using Ordinal Data</b><br>use with<br><u>Skewed Populations</u><br>Small Sample |
| One Sample   | z  | t | z              | Sign Test  |
| Two Independent Samples                            | z  | t | z              | Mann-Whitney Test  |
| Two Dependent Samples (paired difference test)     | z  | t | z              | Sign Test  |
| 3 or More Independent Samples (ANOVA)              | F  | F | Not Applicable | Kruskal-Wallis Test  |
|  | 1. If $\sigma$ is known, z may be used in place of t.  |   |                | <b>Nonparametric Tests of Nominal Data Using <math>\chi^2</math></b>   |
| One Categorical Variable                           |  |   |                | Goodness of Fit Test   |
| Two Categorical Variables (Statistical Dependency) |  |   |                | Contingency Tables   |