* **Univariate/Bivariate/Multivariate Tests and calculations - 1**

1. N, *n*
2. Min
3. Max
4. Sum of X(s) (X1, X2, …)
5. Sum of Y(s)
6. Quartiles
7. Quintiles
8. Range
9. Mode
10. Median
11. Parameters (µ, sigma)
12. Mean(s)
13. Sum of squares
14. Sum of squared deviation scores
15. Cross-products
16. Standard Variance
17. Standard deviation(s) (i.e., s, S, sigma)
18. Percentile and Percentile Rank

* **Bivariate Statistics – 1b.**

1. (Pearson’s) bivariate r-coefficient
2. OLS Regression
3. R
   1. Multiple
   2. Canonical
   3. Sequential
4. R2
5. Standard Error of the Mean
6. Sampling Distribution of the Mean
7. skewness
8. kurtosis

* **Hypothesis Testing - 2**

1. One-Sample *z* test
2. *t*-test (for n < 18)
3. Paired-samples t-test
4. General Linear Model (GLM)

* **Analysis of Variance - 3**

1. One-Way Between-Subjects ANOVA
2. Factorial Between-Subjects ANOVA
3. Within-Subjects ANOVA
4. Critical *F* for Planned Comparisons
5. Critical *F* for Post Hoc Comparisons
6. Chi-Square Analysis

* **Significance of Group Differences - 4**

1. “One-way ANOVA and *t* test”
2. One-Way ANCOVA
3. Factorial ANOVA
4. Factorial ANCOVA
5. One-Way MANOVA
6. One-Way MANCOVA
7. One-Way Discriminant Analysis
8. Sequential One-Way Discriminant Analysis
9. Logistic Regression
10. Factorial Discriminant Analysis
11. Factor Analysis
12. Structural Equation Modeling
13. Survival/Failure Analysis

Chapter 1

*N* and *n* are both symbols related to numbers in the context of statistical analysis; N is the number of individual exemplars of a subject to be studied that belongs in or to a particular group or *population*. For example, Northrise Middle School has 600 6th-grade-children, and Henderson Middle School has 650. So, N1 = 600; N2 = 650. A representatively large random sample is drawn from each for a study that evaluates economic effects on academic development from 6th to graduation of high-school (or age 18). Because the size of different groups can be different, the scientist will have to make certain judgments about how to execute selection in a way that does not damage the voracity or objectivity of the results of the study and, rather, preserves the representativeness of the sampled students of the population they come from.

An additional phase in the process of sampling is based in coming up with valid observations, or otherwise accounting for abnormalities, such as outliers, so that the sample, again, achieves representativeness. This is, generally, to deal with issues aside from questions of randomness of sampling.

*n* on the other hand, symbolizes the number of *observations* made on each subject within a sample.