REVIEW SHEET FOR FINAL EXAM (100 points)
Psychology 230

This is a 2-part test. Part 1 is closed-note. Part 2 is open-note. For Part 2, you may use your calculator and 8.5 x 11 inch paper with handwritten notes—both sides. You may NOT use your mobile device.

You should be able to go through the Steps of Hypothesis Testing with *verbal precision* and *clarity*. This ensures that you understand the process.

Practice your calculations for the different types of tests. Make sure that you know how to perform variance and standard deviation calculations using your calculator's automatic functions.

Practice saying and writing definitions in your own words to improve your conceptual grasp of statistical concepts.

SPSS Analysis

Be prepared to interpret the *output* from the different types of tests covered in this section of the class.

Chapter 11: Significance of the Difference Between Two Sample Means

- Be able to perform calculations for a *paired-samples* (i.e., *dependent*) t-test and write up your conclusions.
- Be able to perform calculations for an *independent-groups* t-test and write up your conclusions.
- Understand the properties of the *sampling distribution of mean differences*.
- Define the estimated *standard error* of mean differences. Be able to calculate.
- Understand what constitutes *independent* and *dependent* samples. Provide illustrations.
- Know when it is appropriate to use one or the other test. I may have research scenarios for which you will have to decide what type of test to use.
- Understand and be able to use the *table of critical values* for *t* distributions.
- Be familiar with the assumptions of t tests.

Chapter 12: One-Way Analysis of Variance

- Be able to fill in an ANOVA summary table, interpret it and output from an LSD table.
- Provide a *definition* of ANOVA
- Understand *two or three things* about when and why we use ANOVA.
- Provide illustrations of situations where ANOVA would be appropriate.
- Understand and be able to use the *table of critical values* for the F distribution.
- Be familiar with the assumptions of F tests.

Chapter 13: Correlation

- Understand the meaning of *correlation*.

- Understand why correlation does not mean *causation*.
- Be able to *visually depict* all different types of correlations (i.e., based on strength and direction)
- Understand and be able to use the *table of critical values* for the *r* distribution.
- Be able to interpret the output from a correlation analysis.
- Understand the significance of the *coefficient of determination* (r^2). Be able to interpret this coefficient as an indicator of shared variance and what it really means in practical terms.
- Be familiar with the assumptions of the *Pearson r* test.
- Understand the proper way to make predictions (of one variable from the other) using a scatterplot with a *regression line* (line of best fit)
- Be able to distinguish among the different types correlations—*Spearman's rank order, biserial, and point biserial.* Come up with your own examples. Define in your own words.