Statistics Problem Set #2

1. When discussing ANOVA, we said that that the samples must pass normality tests. Then we described the problem that would arise if this condition were not met. What is that problem?
2. What is the benefit of using the Scheffe test instead of the Tukey, as an ANOVA post-hoc test?
3. In what sense are the Poisson and Binomial distributions special cases of each other?
4. If a distribution is skewed, can it have kurtosis? If it has kurtosis, can it be skewed?
5. Explain why we construct confidence intervals for slope coefficients as part of one-way ANOVA.
6. Since R2 is never negative, then how can it detect inverse relationships?
7. In the context of hypothesis tests for µ, please describe the trade-off between confidence and precision for fixed n. What if n is not fixed?
8. In One-Way ANOVA, can η2 be big while Fcalc is small? Answer also in the reverse.
9. In the context of Two Way ANOVA, please define the term interaction.
10. Can a data set’s variance ever be smaller than its standard deviation?
11. In the context of hypothesis tests, please define the term power.