Delia Mahoney
Week 12 Reading Q's
11/19/2021
**worked solo

1. Adding more terms to the model allows it to predict more accurately for values of the response variable, but a model with many terms makes understanding the meaning of the model much more difficult. For example, if we had a dataset that reflected tree height based on amount of sunlight, a simple model with a single term would indicate that each additional unit of sunlight results in a certain amount of additional tree growth. With multiple terms, this correlation is unclear, and confounded by additional mathematical operations that may be present in other terms.
2. Phosphorous is significantly different, has a p-value (.721) of greater than the standard .05.
3. I add the intercept with the product of each coefficient multiplied with the given variables.
   -1.7 + (.043*0) + (.192*0) + (-.027*0) = -1.7 + 0 = **-1.7**.
4. Again you add the intercept with the product of each coefficient with the value of the given treatment variable.
   -1.7 + (.043*10) + (.192*30) + (-.027*20) = -1.7 + .86 + 5.76 + -.54 = **4.38**.
5. The key difference between simple linear regression and a 1-way ANOVA is that ANOVA shows model variability for categorical factors, which tells us the relative importance of each predictor in the model.
6. The deterministic elements of the equation are α and $\beta 1$, which are the model coefficients (intercept and slope).
7. The stochastic part of the equation is ϵ which stands for the error (residuals).