GAT DOE Rubric 2023

_____ /**2pts** Hypothesis of experiment is indicated. What did you do for your experiment? Predictor and response variables are indicated. Units of measure are included.

_____ /**2pts** Table of factors with proper labels (this is for your low, standard, and high values)

_____/**2pts** DOE table with averages for (+,+) (-,-) (-,+) and (-,+).
Be sure to include the grand average and how it was calculated.

_____/**5pts** Effect of variable one value is properly calculated. Discuss math needed to get calculation. Show a table and a figure to aid in your calculation. Specifically discuss whether or not there is an increase or a decrease, on average.

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_____/**6pts** Interaction effect value is properly calculated. Show a table and a figure to aid in your calculation. Discuss whether or not there appears to be an interaction effect. Use the slopes of the line segments as a part of that discussion.

In addition, where appropriate do a comparative analysis of whatever variable you chose for your solid and dashed segments. (Look at the average value for when it was held high on its own and compare it the numbers that you used to graph the solid segment. Also, look at the average value for when it was held low and compare it to the numbers that were used to graph the dashed segment.)

_____/**2pts** Graph of standards is included and interpreted. A table of all standards values is included. A brief discussion of the variability of the data and how it relates to your experimental design is apparent. A discussion (where appropriate) about the presence or absence of a pattern over the data collected during/over the duration of the experiment. *Remember your standards are a basis of control.*

_____/**2pts** Dot plot of effects included, all effects labeled and interpreted.

_____/**2pts** Statistical test of significance is carried out. A figure with fences is shown.

_____/**4pts** Prediction equation with a check of the mathematics is carried out.

_____/**4pts** Parsimonious prediction equation with an interpolated prediction is carried out. Be sure to indicate how the significant effects were "chosen." A description of what could be expected if the experiment were re-run with the interpolated numbers is necessary.

_____/**4pts** Interpret the data; critically look at all of the data in this section. Recap the meaning of what the numbers are indicating. (What's the bottom line?) Use your scientific knowledge to decide what was practically significant **even if** it fails the statistical test.

_____/**40 pts Total**