**Analysis Guidelines**

**I. Graphs**

Make sure to include a graph of the original optimization equation and its derivative. Organize these graphs so that they are either next to each other or line up vertically (with the same scale for the x axis).

**II. Interpretation**

Use specific, relevant details from the graph to develop a logical explanation for which value optimizes your product/design. Connect key graph features (critical points, extremes, slope, concavity) to show how the optimization equation and its derivative are related. This analysis should help explain the reason why finding the zero value for x on the derivative also finds the x coordinate for the maximum on the original function.

**III. Limitations, Outliers, Further Analysis**

In many cases only part of the graph will be relevant. Explain to the reader which parts of the graph require focus and why parts, if any, are irrelevant or nonsensical. This may include negative values for physical size, or imaginary components of the solution. Also include any limitations your entire approach may have, given the intent of the original product/design. From these limitations, highlight possible avenues for further analysis in an effort to continually improve your product/design.