

MTH 325, Quiz #6, Spring 2023 Name _____

Instructions: Answer each question as thoroughly as possible. Round answers to 4 decimal places as needed. Exact answers are best when possible. Be sure to answer all parts of each question.

1. Consider the data on home prices in **325quiz6data.xlsx**. Perform a natural log transformation to both variables and add them to the dataset. Then use best subset selection methods to find the best model to predict price from the other variables (excluding Home). Perform appropriate diagnostics and do the following:
 - a. State your final equation (clearly state which variable is which)
 - b. Conduct appropriate hypothesis tests on your final model for all coefficients.
 - c. Create residual plots and analyze them to test your assumptions for the multivariable model.
 - d. What is the final R^2 of the model? What does it mean in context?
 - e. Create a scatter plot of the transformed variables relative to the price, and the untransformed variables relative to the price. Does the transformation appear to have improved the linearity? Explain.