Group 10:

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1a. The scatterplot shows that the lines are parallel suggesting that there are common slopes and possibly slightly different intercepts.

1b. We performed an F-test for assess whether the higher-order term for the interaction between IQb and social class and lower-order term (i.e., social class) significantly reduce uncertainty in predicting IQ.

1c. After we consider IQb, the F-test reveals that neither social class nor the interaction term provide additional information in predicting the response, IQ.

2a. For each additional year, the log of price per acre is, on average, associated with an increase of 0.101 dollars per acre.

2b. Over time, the price per acre appears to generally increase starting in 2004 to 2011 compared to the price per acre in 2002. The price per acre in 2003 is not significantly different from the price per acre in 2002. Relative to price in 2010, the price per acre is associated with a smaller increase in price compared to price in 2002.

2c. Model 1 indicates the relationship between price per acre and year is linear suggesting that is fixed, whereas Model 2 allows price per acre to change non-linearly over time.

2d. The anova test suggests that we can reject the null hypothesis that the model with linear year predicting price per acre is sufficient to explain these data.