This question will help you review some of the material from this semester. To begin, run the following code in R.

```
> library(mosaic)
> ?SaratogaHouses
> View(SaratogaHouses)
> table(SaratogaHouses$fuel)
```

Say a homeowner in Saratoga County, New York is curious about whether upgrading their home from an oil heating fuel system to either a gas or electric fuel system would increase the resale value of their home. Use the SaratogaHouses dataset in R and a Kruskal-Wallis Test to answer the question, "which heating system results in the hightest distribution of home resale values (price)?"

The null hypothesis for this study is that the [prices of homes] with either gas, oil, or electric heating fuel systems [all come from the same distribution]. The alternative hypothesis is that at least one type of [fuel system] results in a different distribution of [prices of homes].

Perform a Kruskal-Wallis test for these hypotheses in R using the SaratogaHouses dataset.

The Kruskal-Wallis [Rank Sum Test] for these hypotheses gives a test statistic of [159.66] with [2] degrees of freedom, resulting in a p-value < 2.2e-16. There is [sufficient] evidence to [conclude the hypothesis] the distribution of [prices of homes] is different for at least one of the [fuel system types.]

Which of the following codes best depicts the results of the Kruskall-Wallis Test?

- (●) > boxplot(price ~ fuel, data=SaratogaHouses)
- ( ) > stripchart(price ~ fuel, data=SaratogaHouses)
- ( ) > barchart(price ~ fuel, data=SaratogaHouses)
- ( ) None of these codes should be used because we failed to reject the null hypothesis.

Which [fuel type] results in the highest median price of homes?

- (●) gas
- ( ) electric
- ( ) oil
- ( ) We must continue to assume the median prices are the same for each group since we failed to reject the null hypothesis.

What is the highest median price?

206500

Hint: This value cannot be accurately determined from a plot.