Name:_____ Date:_____

LAB 4A: If the line fits...
Response Sheet

Directions: Record your responses to the lab questions in the spaces provided.

How to make predictions

Predicting heights

(1) Write and run code using the `data()` function to load the `arm_span` data.

(2) Write and run code making a plot of the `height` variable.

(3) If you had to predict the height of someone in the Los Angeles area, what single height would you choose and why?

(4) Would you describe this as a *good* guess? What might you try to improve your predictions?

Predicting heights knowing arm spans

(5) Write and run code creating two subsets of our `arm_span` data:

- One for `armspan >= 61` and `armspan <= 63`.

- A second for `armspan >= 64` and `armspan <= 66`.

(6) Write and run code creating a `histogram` for the `height` of people in each subset.

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Answer the following based on the data:

- **(7) What `height` would you predict if you knew a person had an `armspan` around 62 inches?**

- **(8) What `height` would you predict if you knew a person had an `armspan` around 65 inches?**

- **(9) Does knowing someone's `armspan` help you predict their height? Why or why not?**

Fitting lines

(10) Write and run code creating a scatterplot for `height` and `armspan`. Then run the following code.

```
add_line()
```

get.line()

Predicting with lines

(11) Draw a line that you think is a good *fit* and write down its equation.

(12) Using this equation: Predict how tall a person with a 62-inch `armspan` and a person with a 65-inch `armspan` would be.

(13) How tall would you predict a person who is 63.5-inch `armspan` to be?

(14) Compare your answers with a neighbor. Did both of you come up with the same equation for a line? If not, can you tell which line fits the data best?