A graph with a line and dots

Description automatically generated

1. In the scatterplot above what is the explanatory variable? What is the response? What are the units of both variables respectively?

2. What does each point on the scatter plot represent?

3. Assess and describe the trend displayed in the scatterplot.

4. Given the trend of the smoother, does a linear trend seem reasonable?

5. Write the population equation for the linear model predicting Driver Rating from Average Start.

6. Fit the least squares regression equation for modeling Driver Rating from Average Start.

A screenshot of a computer error

Description automatically generated

7. Interpret the slope coefficient in the context of the data.

8. Provide a literal interpretation of the intercept coefficient. Does it make sense in context of the data?

9. Although it is already known, use the model to predict the Driver Rating of Joey Logano who has an AvgStart of 10.9.

10. Given that Joey Logano's actual Driver Rating in 2022 was 89.5, calculate the residual of the model prediction. Did the model overpredict or underpredict Logano’s actual driver rating?

11. What is the size of a typical error for this model?

12. What percent of variation in Driver Rating can be explained by the model using Avg Start? What is the sample correlation?

13. What are the model assumptions for simple linear regression?