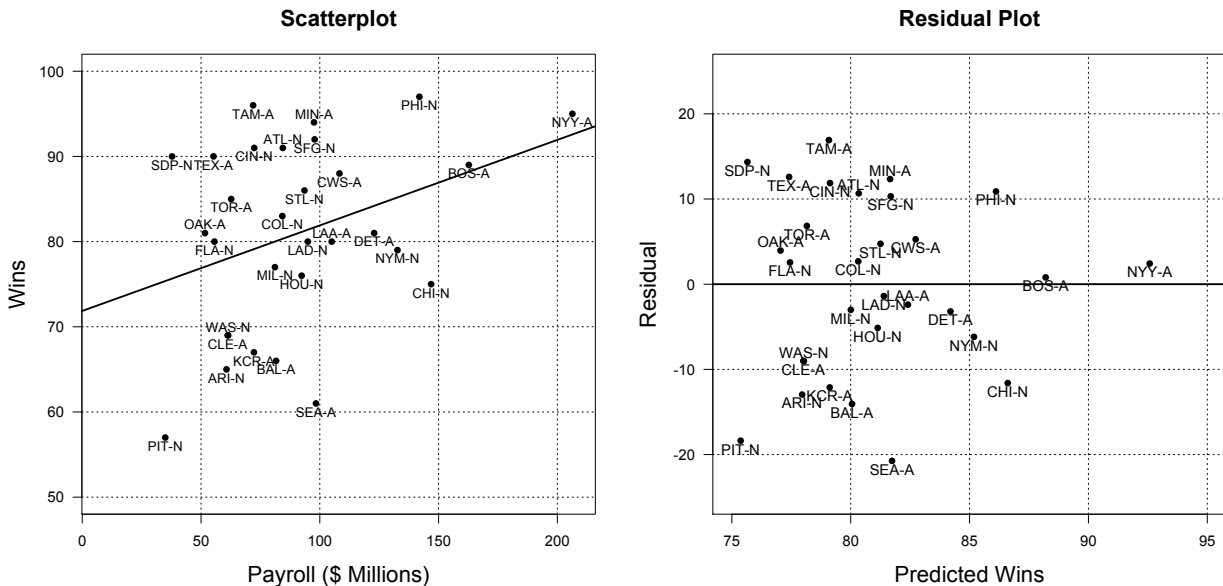


# STAT 101 Regression Worksheet

Name: \_\_\_\_\_

When it come to winning baseball games, not too much. Take a close look at the graph below, noting the  $x$  and  $y$  axes. In general, do teams with higher payrolls win more games? In this worksheet we will explore the relationship between payroll and games won during the 2010 MLB season.



The relationship between Payroll and Wins can be modeled using a regression line of the form

$$\text{Predicted Wins}(\hat{y}) = 71.86 + 0.100 \times \text{Payroll}(x)$$

1. “Payroll (\$ Millions)” would be the \_\_\_\_\_ (explanatory or response) variable and “Wins” would be the \_\_\_\_\_ (explanatory or response) variable in this model.
2. **Complete the interpretation of the slope.**  
For every \_\_\_\_\_ increase in a team’s payroll, a team wins \_\_\_\_\_ more games, \_\_\_\_\_.
3. The Tampa Bay Rays spent \$71.92 Million on their team payroll. According to the model, what is their expected number of wins?
4. Tampa Bay won 96 games, calculate their residual.
5. The teams with the largest and smallest residual values got the most and least wins for their money, respectively. From the residual plot, identify these teams.  
Most Wins for the money: \_\_\_\_\_  
Least Wins for the money: \_\_\_\_\_