

Answer on Question #55201 – Math – Statistics and Probability

dependent variable is home attendance

r-squared= 28.4%

variable is coefficient

constant= -6760.5

wins= 431.22

- a) write a equation of the regression line
- b) estimate the average attendance for a team with 50 wins
- c) interpret the meaning of the slope of the regression line in this context
- d) in general what would a negative residual mean in this context
- e) the giants won 92 games and averaged 41,736 fans at their home games. calculate the residual for this team and explain what it means

Solution

- a) $Attendance = -\text{constant} + 431.22(\text{Wins}) = -6760.5 + 431.22(\text{Wins})$
- b) $Attendance = -6760.5 + 431.22(50) = 14800.5$ This is an extrapolation.
- c) For each additional win, the model predicts an increase in attendance of 431.22 people on average.
- d) A negative residual means that the team's actual attendance is lower than the attendance model predicts for a team with as many wins.

e) $Attendance = -6760.5 + 431.22(92) = 32911.7$

$Residual = observed - predicted = 41,736 - 32,911.7 = 8824.3$

The large positive residual shows that home attendance for the Giant was much higher than it is predicted according to the regression line for fans.