E-text 12.47 essay sample

Science, Mathematics

Regression analysis of free throws by 29 NBA teams during the 2002-2003 season revealed the fitted regression Y= 55. 2 + . 73x (r2=. 874, Syx= 53. 2) Where Y= total free throws made and X= total free throws attempted. The observed range of X was from 1, 620 (New York kicks) to 2, 382 (golden state warriors). (a) Find the expected number of free throws made for a team that shoots 2, 000 free throws. (b) Do you think that the intercept is meaningful? (Hint: make a scatter plot and let excel fit the line. (c) Use the quick rule to make a 95 percent prediction interval for Y when X= 2, 000 FREE THROWS

(a) Find the expected number of free throws made for a team that shoots 2, 000 free throws.

Y = 55. 2 +0 . 73x = 55. 2 + 0. 73*2000 = 1515. 2 ≈ 1515

The expected number of free throws made for a team that shoots 2, 000 free throws is 1515.

(b) Do you think that the intercept is meaningful? (Hint: make a scatter plot and let excel fit the line.

No, the intercept is not meaningful. The reason for this is that the intercept value is 55. 2 free throws made for no free throws attempted.

(c) Use the quick rule to make a 95 percent prediction interval for Y when X= 2, 000

Quick Rules for Prediction Intervals

=(putting t = 2 for quick 95 percent prediction interval)

== (1894, 2106)