

Homework for Chapter 12

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12.2

(a)

From software, we have $\hat{\alpha} = -0.17$, $\hat{\pi}_i = 0.46$. That is, O'Neal's probability to made a free throw is 46%. $G^2 = 40.02$ with $df = 22$, p-value = 0.01, so the model fits badly.

(b)

From software, we have $\hat{\alpha} = -0.19$, $\hat{\sigma} = 0.40$. Since p-value for $H_0 : \sigma = 0$ is 0.12, O'Neal's free shooting differs slightly from game to game.

(c)

When $\sigma = 0$, the model in part (b) is reduced to the model in part (a). The model in part (b) fits better.