

Quiz 8 Mar. 7, 2001, *Statistics for Business*

1. In general, the **smaller** the value of the residual standard deviation, the better the model.

A) True B) False

2. We have 23 pairs of x-y data and are fitting a quadratic regression curve to these data by least squares. How many **degrees of freedom** do the residuals have? _____

A model of the form $\hat{y} = b_0 + b_1x + b_2x^2$ has been used to model y , the height in inches of young girls, where x is the age of the girl in years. The least squares estimates are $b_0 = 25$, $b_1 = 4$, and $b_2 = -0.07$.

3. What are the **units** for the coefficient, b_0 ? _____

4. What does the model **predict** for the height of a 10 year old girl? _____ (Show your work to the right of the answer.)

Answers: 1. True, 2. A quadratic has three regression coefficients, so the residuals have $23-3=20$ degrees of freedom, 3. inches, 4. $25 + 4(10) - 0.07(10^2) = 25 + 40 - 7 = 58$ inches.