

2002 Multiple Choice #31 Homework Problem

Tuesday 04/14

31. A wildlife biologist is interested in the relationship between the number of chirps per minute for crickets (y) and temperature. Based on the collected data, the least squares regression line is $\hat{y} = 10.53 + 3.41x$, where x is the number of degrees Fahrenheit by which the temperature exceeds 50° . Which of the following best describes the meaning of the slope of the least squares regression line?
- (A) For each increase in temperature of 1° F, the estimated number of chirps per minute increases by 10.53.
 - (B) For each increase in temperature of 1° F, the estimated number of chirps per minute increases by 3.41.
 - (C) For each increase of one chirp per minute, there is an estimated increase in temperature of 10.53° F.
 - (D) For each increase of one chirp per minute, there is an estimated increase in temperature of 3.41° F.
 - (E) The slope has no meaning because the units of measure for x and y are not the same.