

3.2 Linear Regression

Michael Brodskiy

Instructor: Mr. Thompson

September 24, 2021

The screenshot shows a web-based statistics assignment interface. At the top, there's a navigation bar with a course title "Statistics AP-Thompson-Year-12462 (66479)", a breadcrumb trail "Activities and Due Dates", and a section title "Linear regression". Below this, a summary bar shows "17 of 17 Questions", an "Assignment Score" of 97.6%, and buttons for "Resources", "Give Up?", "Solution", and "Next Question".

The main content area displays a list of questions on the left and the details of "Question 17 of 17" on the right. The question text is: "Each year, students in an elementary school take a standardized math test at the end of the school year. For a class of fourth-graders, the average score was 55.1 with a standard deviation of 12.3. In the third grade, these same students had an average score of 61.7 with a standard deviation of 14.0. The correlation between the two sets of scores is $r = 0.95$. Calculate the equation of the least-squares regression line for predicting a fourth-grade score from a third-grade score."

The multiple-choice options are:

- ☐ $\hat{y} = -11.54 + 1.08x$
- ☒ $\hat{y} = 3.58 + 0.835x$
- ☐ $\hat{y} = 15.69 + 0.835x$
- ☐ $\hat{y} = 2.19 + 1.08x$
- ☐ Cannot be calculated without the data.

A green bar at the bottom of the question area indicates the status "Solved".