**Question #37 gives a table of data for SEVEN students and their time they studied and their test score. It asks about a LINEAR BEST FIT MODEL to then compare an EXPECTED to an ACTUAL for AMANDA who studied 3.5 hours.**

|  |  |  |
| --- | --- | --- |
| **Student** | **Hours (L1) X** | **Grade (L2) Y** |
| **Mary** | **2** | **84** |
| **Jonathan** | **1.75** | **86** |
| **Susan** | **2** | **88** |
| **Terry** | **3** | **94** |
| **Patrick** | **3.5** | **95** |
| **Amanda** | **3.5** | **93** |
| **Darius** | **2.25** | **89** |

**On the TI-84:**

[STAT]

{1: Edit}

Enter data in **L1** (Column) HOURS

Enter data in **L2** GRADE

[STAT] {CALC}

**{4: LinReg ax + b}**

It uses the (L1 and L2 List as the default (But you can change it if necessary)

{**Calculate**}

It returns the answer of ‘a’ = 5.187

And ‘b’ = 76.5

PREDICT: y = mx + b

Y = 5.187(3.5) + 76.5 Y = 18.15 + 76.5 = 94.65

AMANDA ACTUAL WAS **93** and the Predicted value was **94.65** **94.65 – 93 = 1.65**

Answer A is Amanda is 5 points LOWER. False. It is only 1.65 points Lower.

Answer B is a False Statement. Her score is NOT higher than the predicted value.

**Answer C is correct: 1.65 rounds to ~2 so her score is 2 points lower than the predicted.**

Answer D is False. Her score is Lower.