Least Squares Regression

You do, however need to be able

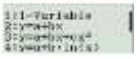
to calculate the value of a and b

from scratch using the calculator.

STEP 1: MENU

STEP 2: 6: Statistics

STEP 3: 2: y=a+bx



STEP 4: Input Data for x and y

STEP 5: AC

STEP 6: OPTN

STEP 7: 3: Regression Calc

***a* = the y-intercept value**
***b* = the gradient value**

1. A random sample of 8 pairs of values are given in the table:

x	1.2	0.5	0.8	0.1	2.3	1.1	1.8	2.2
y	8.1	4.3	7.1	3.5	12.8	8.4	9.9	11.4

a. Find the values of a and b for the least squares regression line of y on x

y = _____ + _____ x

b. Use your least squares regression line to estimate a value for y when x is 5

y = _____

c. Is your answer for part (c) valid? Explain your answer

☐ Yes ☐ No

Because: _____

_____

2. A random sample of six pairs of values are given in the table

g	55.7	10.4	67.1	91.2	30.8	72.1
h	21.2	45.9	88.3	1.4	75.4	21.4

a. Find the equation of the regression line of h on g

h = _____ + _____ g

b. Use your regression line to estimate a value for h when g is 45

h = _____

c. Is your answer for part (c) valid? Explain your answer

☐ Yes ☐ No

Because: _____

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