Regression Line Assignment

Pre-Test	Post-Test
52	64
68	72
40	64
76	84
44	60
100	96
72	68
92	100
96	96
70	76
56	54
48	40
58	70
78	86
58	76
76	80
84	80
46	72
58	70
82	86
80	88
52	58
48	66
58	60
40	42
90	86
80	88
76	90
72	66
42	58
64	74
68	70
78	76
86	92
84	76
82	94
76	86
64	70
52	60
58	68
54	64
62	66

A survey was conducted to test the effectiveness of a new teaching method in a geography course. 42 randomly selected students were given a short test, and the results were recorded in the variable PRETEST. After the students completed the class, they were asked to take a comparable test again, and the results of that test were recorded in the variable POSTTEST. The results of both tests are given in the table on the right.

Use StatCrunch Mobile (or StatCrunch on your laptop if you prefer) to answer the following questions. After you obtain the answers, type them into this document, save it, then submit it to me via email attachment. You do *not* need to pay attention to formatting, plain (and correct) answers are sufficient.

a) What is the mean of the pre-test and the post-test scores? What is their median?

   Pre-test mean:
   Pre-test median:

   Post-test mean:
   Post-test median:

b) What is the equation of the least squares regression line, where X = pre-test scores and Y = post-test scores?

   Equation (in the form y = m x + b):

c) Is there a high linear correlation between pre-test and post-test scores? Justify your answer using the correlation coefficient (or "multiple R").

   Correlation coefficient r:
   This means:

d) Use the regression line equation obtained in (d) to predict the post-test score of someone with a pre-test score of 37.

   If x = 37 then y =