

Linear Regression (Less. 1) (Less. of Math 114)

8. In the United States, there is a relationship between water temperature and the temperature of the fish. The table shows the data for 8 years.

Temperature of Surface Water	% of Fishery Harvest
50	1.1
51	1.2
52	1.3
53	1.4
54	1.5
55	1.6
56	1.7
57	1.8

- (A) Write a linear regression line for the data. Round to 3 decimal places.
- (B) Using the regression line, predict the percentage of fishery harvest for a year when the temperature was 57°.
- (C) Interpret the meaning of the slope of your regression line.
9. The following table shows the number of first-class postage stamps for the year 2000.

Month	Number of Stamps
January	100
February	100
March	100
April	100
May	100
June	100
July	100
August	100
September	100
October	100
November	100
December	100

- (A) Using the data only, write a linear regression line for the data.
- (B) Using the line of best fit, predict the cost of mailing a one-cent first-class letter in the year 2000.
- (C) Using the line of best fit, predict the year in which the cost of a first-class postage stamp will be \$1.
- (D) Interpret the meaning of the slope of the linear regression line.