

Quiz 9
Week of April 6, 1998

1) In fitting a regression line to a scatter plot using OLS we choose the line with slope and intercept that (choose one of the two possibilities:)

☐

i) minimize

☐

ii) maximize

the sum of (choose one of the four possibilities:)

☐

i) absolute horizontal

☐

ii) squared horizontal

☐

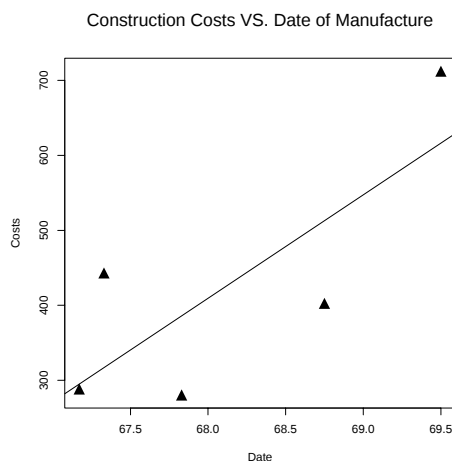
iii) absolute vertical

☐

iv) squared vertical

deviations of points from the line.

2) A scatter plot of construction cost in hundreds of thousands of 1976 dollars (Y) against year of manufacture (X), measured in years from 1900, for light water nuclear power plants manufactured in the U.S. follows. The least squares regression line is $\hat{Y} = -8970 + 238X$ and is included on the plot.



X	Y	Fitted ($\hat{Y}$)	Deviation (d)
280.36	67.83		
443.22	67.33		
402.59	68.75		
712.27	69.50		
288.48	67.17		

a) Fill in the fitted values, $\hat{Y}$, and deviations, d , in the table above.

b) Use the regression line to predict construction costs (in 1976 *dollars*) in 1968 and 1969.

c) What yearly *dollar* increase in construction costs is predicted by the regression model?