"FRAPPY"
{Free Response AP Problem...Yay!}

A simple random sample of 9 students was selected from a large university. Each of these students reported the number of hours he or she had allocated to studying and the number of hours allocated to work each week. A least squares regression was performed and part of the resulting computer output is shown below.

Predictor	Coef	StDev	T	P
Constant	8.107	2.731	2.97	0.021
Work	0.4919	0.1950	2.52	0.040
S = 4.349	R-Sq = 47.6%	R-Sq (adj) = 40.1%		
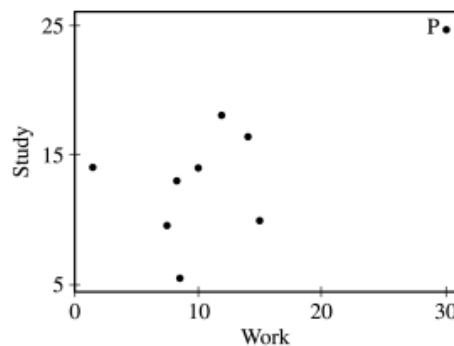
Scoring:

The scatterplot displays the data that were collected from the 9 students.

(a) After point P, labeled on the graph, was removed from the data, a second linear regression was performed and the computer output is shown below.

E   P   I

| Predictor	Coef	StDev	T	P
Constant	11.123	3.986	2.79	0.032
Work	0.1500	0.3834	0.39	0.709
S = 4.327	R-Sq = 2.5%	R-Sq (adj) = 0.0%		

Does point P exercise a large influence on the regression line? Explain.

(b) The researcher who conducted the study discovered that the number of hours spent studying reported by the student represented by P was recorded incorrectly. The corrected data point for this student is represented by letter Q in the scatterplot.

E   P   I

Explain how the least squares regression line for the corrected data (in this part) would differ from the least squares regression line for the original
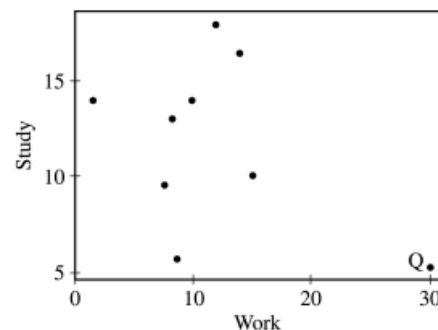
data.

«Organization»

OFFICE
«Address»
«Address», «Address» «Address»

PHONE
«Phone»

FAX
«Phone»

EMAIL
«Email»

WEB