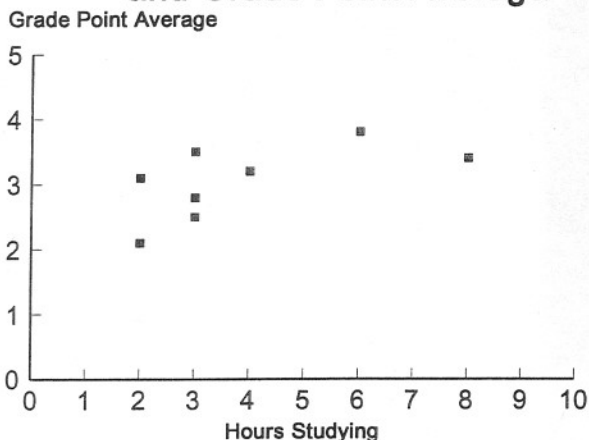


Quick Questions 24 Simple Linear Regression Analysis

- I. Place the number of the appropriate formula, symbol, or expression next to the concept it describes.
- A. The standard error of the estimate _____
 - B. The y-intercept _____
 - C. The regression equation _____
 - D. The estimated value of y given x _____
 - E. The slope _____
 - F. An interval estimate for the conditional mean of Y _____
 - G. An interval estimate for an individual value of Y _____

- II. The following data was first presented in chapter 23. Estimate the regression line for this scatter using the eyeball method.

Scatter Diagram of Hours Studying and Grade Point Average



1.	$\hat{y}_{\cdot x} = a + bx$
2.	$\hat{y}_{\cdot x} \pm ts_{y \cdot x} \sqrt{\frac{1}{n} + \frac{(x - \bar{x})^2}{\sum x^2 - \frac{(\sum x)^2}{n}}}$
3.	$\bar{Y} - b\bar{x}$
4.	$\hat{y}_{\cdot x}$
5.	$\frac{n(\sum XY) - (\sum X)(\sum Y)}{n(\sum X^2) - (\sum X)^2}$
6.	$\hat{y}_{\cdot x} \pm ts_{y \cdot x} \sqrt{1 + \frac{1}{n} + \frac{(x - \bar{x})^2}{\sum x^2 - \frac{(\sum x)^2}{n}}}$
7.	$\sqrt{\frac{\sum Y^2 - a(\sum Y) - b(\sum XY)}{n - 2}}$

Hours Studying per Weekend	Grade Point Average	XY	X ²	Y ²
3	3.0	9.0	9	9.00
2	2.0	4.0	4	4.00
6	3.8	22.8	36	14.44
3	2.6	7.8	9	6.76
4	3.2	12.8	16	10.24
8	3.7	29.6	64	13.69
2	2.1	4.2	4	4.41
<u>3</u>	<u>2.8</u>	<u>8.4</u>	<u>9</u>	<u>7.84</u>
31	23.2	98.6	151	70.38

- III. Calculate the regression equation. Round the slope and y-intercept to three significant digits.