

Answer on Question #46745 – Math – Statistics and Probability

Question:

Find the equation of the regression line for the given data.

x -5 -3 4 1 -1 -2 0 2 3 -4

y 11 6 -6 -1 3 4 1 -4 -5 8

Solution:

The linear regression equation:

$$y = a + bx$$

where a is the intercept, b is the slope of the regression line.

$$b = \frac{N \cdot \Sigma xy - (\Sigma x) \cdot (\Sigma y)}{N \cdot \Sigma x^2 - (\Sigma x)^2} = -1.885$$

$$a = \frac{\Sigma y - b \cdot \Sigma x}{N} = 0.758$$

where N is number of values

Answer: $y = 0.758 - 1.885 \cdot x$