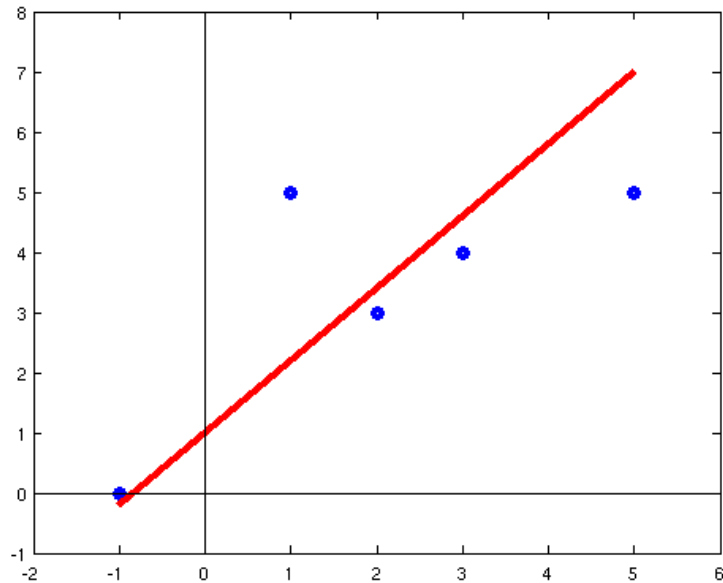# Quiz 2

Given the following data values

$$x = \{-1, 1, 2, 3, 5\} \text{ and } y = \{0, 5, 3, 4, 5\}$$

A graph of the five values is displayed above, together with the line (this is not necesseraly the regression line)

$$\hat{y} = 1 + 1.2x$$

1. Compute the predicted values $\hat{y}$ for the given x values using the line equation above.

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2. Compute the errors for the estimates.

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3. Compute the sum of squared errors (SSE) for the estimates.

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You can use these formulas for your computations:

$$b_1 = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

$$b_0 = \bar{y} - b_1\bar{x}$$

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{n(\sum x^2) - (\sum x)^2}\sqrt{n(\sum y^2) - (\sum y)^2}}$$

4. What is the equation for the line of best fit (regression line) for the previous data values?

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5. Draw your line on the previous graph.

6. Is the sum of squared errors for the line of best fit smaller or larger than the sum of squared errors for the previous line? Exlain why.

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