

Step 100

$$S_y = \sqrt{\frac{\sum (y - \bar{y})^2}{n-1}} = \sqrt{\frac{15.5}{7}} = \sqrt{2.214}$$

$$= 1.48$$

$$S_x = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}} = \sqrt{\frac{1054.875}{7}} = \sqrt{150.696}$$

$$= 12.276$$

$$b = r * (S_y / S_x) = .349 * \frac{1.488}{12.276}$$

$$= .349 * .1212$$

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$$b = .0423 \quad \bar{y} = 178.25 \quad x = 63.125$$

$$\text{y-intercept} \quad a = \bar{y} - b\bar{x}$$

$$= 178.25 - .0423 (63.125)$$

$$= 178.25 - 2.670$$

$$= 175.579$$

# Linear Regression

