

FORMULAS

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The distance between (x_1, y_1) and (x_2, y_2) is

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}.$$

If a quantity changes from c_1 to c_2 , then the percent change equals $\frac{c_2 - c_1}{c_1} \times 100$.

The midpoint of the line segment connecting (x_1, y_1) and (x_2, y_2) is

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right).$$

If (x_1, y_1) and (x_2, y_2) lie on the graph of f , then the average rate of change from x_1 to x_2 equals

$$\frac{y_2 - y_1}{x_2 - x_1}.$$

$$\text{slope} = m = \frac{n(\mathbf{S}_{xy}) - (\mathbf{S}_x)(\mathbf{S}_y)}{n(\mathbf{S}_{xx}) - (\mathbf{S}_x)^2}$$

$$\text{y-intercept} = b = \frac{(\mathbf{S}_y) - m(\mathbf{S}_x)}{n}$$