

Example: Average Rate of Change

The cost in dollars to produce x computers in a factory is given by the function. Determine and interpret the average rate of change from $x = 0$ to $x = 200$ and from $x = 400$ to $x = 600$.

$$y = -0.5x^2 + 600x$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{100,000 - 0}{200 - 0} = 500 = \$500 / \text{computer}$$

The average rate of change

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$