Average rate of change

• The average rate of change of f from x_1 to x_2 is $\Delta y = f(x_2) - f(x_1)$ if $x_1 \neq x_2$.

$$\frac{\Delta y}{\Delta x} = \frac{f(x_2) - f(x_1)}{x_2 - x_1} \quad \text{if } x_1 \neq x_2.$$

This is also called the difference quotient.

Another version is

$$\frac{f(x+h)-f(x)}{h}$$

where h is the amount of change in x