

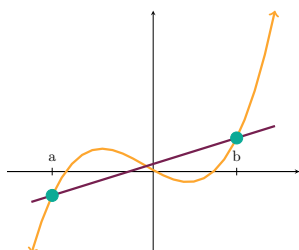
Section 2.4 Notes

Average Rate of Change of a Function

Average Rate of Change

The *average rate of change* for a function f between the points $x = a$ and $x = b$ is given by

$$\frac{f(b) - f(a)}{b - a}$$



The average rate of change is nothing more than the slope of the line connecting the two points.

Examples

For each function, find the average rate of change between the two given points.

1. $f(x) = \sqrt{2+x}$, $x = -1$, $x = 2$

$$\frac{1}{3}$$

2. $g(t) = \frac{1}{t^2}$, $t = 1$, $t = 1 + a$

$$\frac{-2-a}{(1+a)^2}$$

3. $h(s) = \sqrt{s}$, $s = x$, $s = x + y$. Simplify by rationalizing the numerator.

$$\frac{1}{\sqrt{x+y} + \sqrt{x}}$$