

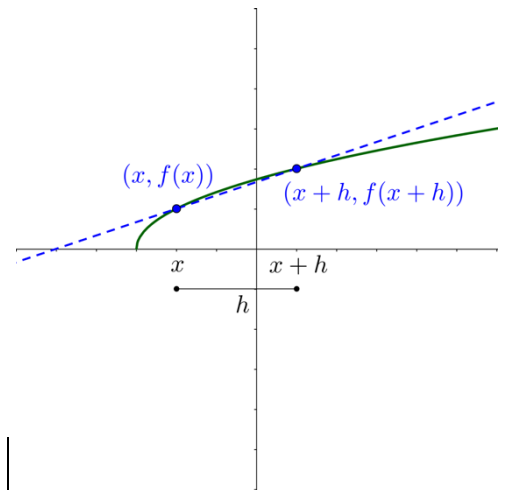
Precalculus

12-03 Derivatives

Calculus is based on two main problems

- Finding the _____ of the tangent line to a function (finding _____)
- Find _____

$$\text{Slope of tangent line} = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$



Derivative

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

Gives a function for slope, or rate of change, of a function

Find the slope of $f(x) = x^3$ at (2, 8)

Find the derivative of $f(x) = x^2 - 2$

Find the derivative of $f(x) = \sqrt{x} + 1$