



Derivatives

1 Why

2 Definition

3 Notation

Let $f : (a, b) \rightarrow \mathbf{R}$. Let $x_0 \in (a, b)$ If

$$\lim_{x \rightarrow x_0} \frac{g(x) - g(x_0)}{x - x_0}.$$

exists then f is differentiable at x_0 .

Suppose f is differentiable at x for each $x \in (a, b)$ then f is **differentiable**.