

Concavity:

Relative Maxima and Minima:

A function f is said to have a relative maximum at x_0 if there is an open interval containing x_0 such that $f(x_0) \geq f(x)$ for all x in the interval.

Similarly, f is said to have a relative minimum at x_0 if there is an open interval containing x_0 such that $f(x_0) \leq f(x)$ for all x in the interval.

If f has either a relative maximum or a relative minimum at x_0 then f is said to have a relative extremum at x_0 .

Critical Points: ~~A point x_0~~ Suppose f is a function defined on an open interval containing a point x_0 .

Then x_0 is said to be a critical point of f if $f'(x_0) = 0$ or f is not differentiable at x_0 .

Stationary Point: A point x is said to be a stationary point of a fun. f if $f'(x) = 0$.