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0.1 Differentiable functions

0.1.1 Introduction

A differentiable function is one where the differential is defined at all points on the real line.

All differentiable functions are continuous. Not all continuous functions are differentiable.

0.1.2 Differentiability class

We can describe a function with its differentiability class. If a function can be differentiated n times and these differentials are all continous, then the function is class C^n.

0.1.3 Smooth functions

If a function can be differentiated infinitely many times to produce continous functions, it is C^∞, or smooth.