

Download Limit And Continuity Notes

In this section we will introduce the concept of continuity and how it relates to limits. We will also see the Intermediate Value Theorem in this section and how it can be used to determine if functions have solutions in a given interval.

Section 2-2 : The Limit. In the previous section we looked at a couple of problems and in both problems we had a function (slope in the tangent problem case and average rate of change in the rate of change problem) and we wanted to know how that function was behaving at some point $(x = a)$. In mathematics, the limit of a function is a fundamental concept in calculus and analysis concerning the behavior of that function near a particular input.

History. In 1821 Augustin-Louis Cauchy published a proof that a convergent sum of continuous functions is always continuous, to which Niels Henrik Abel in 1826 found purported counterexamples in the context of Fourier series, arguing that Cauchy's proof had to be incorrect.