

# Real Analysis

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## Introduction

### Analysis

Real Analysis: The analysis of real numbers and real-valued functions. Complex Analysis: Concerns the analysis of complex numbers and complex functions. Harmonic Analysis: Concerns the analysis of Harmonics (Waves) sine waves and how they synthesize other functions by Fourier Transform. Functional Analysis: Focuses much more heavily on functions (on how they form things like vector spaces)

Real Analysis is the theoretical foundation underlines *calculus*, which is the collection of computational algorithms which one uses to manipulate functions.