

Notes: An amalgamation of all things interesting

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Colour Key and Notation

I am a simple human in a highly stimulating modern world- most of the mathematics notes and textbooks I have seen simply cannot compete with the level of sensory stimulation we are used to. However I have decided *colour* is an necessary addition to any set of useful notes.

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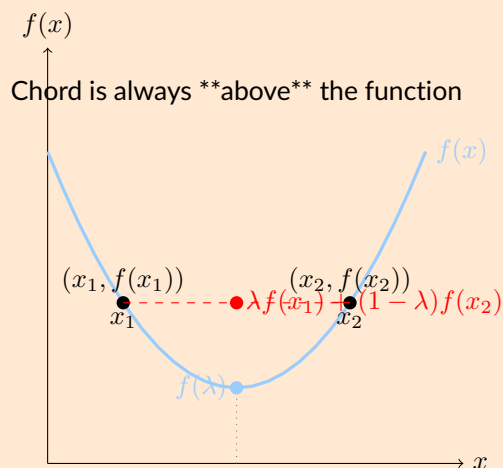
Chapter 1

Background Concepts

This section does not aim to provide a rigorous introduction to each concept but rather aims to provide the reader with a functional understanding- enabling them to practically apply the concepts in further problems and areas.

1.1 Calculus

1.1.1 Convex Function



1.2 Complex Analysis

1.3 Linear Algebra

1.4 Multivariable Calculus

1.5 Useful Tools

1.5.1 Convolution

Discrete Series

Continuous

1.5.2 Fourier Transform

1.5.3 Laplace Transform

1.5.4 Z Transform

1.6 ODEs

1.7 PDEs

Chapter 2

Numerics

2.1 Linear Multistep Methods

Chapter 3

Probability

Chapter 4

Statistics

4.1 Linear Regression

4.2 Generalised Linear Models

4.2.1 Exponential Family

Normal Distribution

Aiming to write **PDF of the Normal** in the form for an exponential distribution

Chapter 5

Machine Learning

5.1 Principal Component Analysis

Chapter 6

Fluids

Chapter 7

Music

"Music is arithmetic where the soul doesn't know it is counting"

