Introduction to Higher Mathematics

Eric Schles

Friday, December 19th, 20014

Welcome to Higher mathematics

Contents

Chapter 1

Why We Prove Things

In this chapter I explain why proving things can be useful and how to make use of it in your daily life, career and in the larger context of the universe of knowledge

Chapter 2

Understanding numbers

In this chapter I give an introduction to numbers and how they came about. Then I give some basic examples and exercises of properties of numbers.

Chapter 3

A First Technique

In this chapter I give an analysis of a first technique for proving things as well as a number of examples of how to use the technique.

Chapter 4

Adding To Our List Of Techniques

In this chapter I present more techniques with similar analysis. Here we will review the first technique and show how it can be used in conjunction with the other techniques we will learn.

Chapter 5

The Axiomatic Approach

Here we will discuss some major axioms in mathematics. As well as the use of conventions and primitives. This will inform a larger understanding of how thought works. And provide a way to look beneath the covers of logic.

Chapter 6

Towards A First Theory

Here we will use our axioms to construct a theory of mathematics and then we will relate this theory to some tanglible examples.

Chapter 7

Expanding Our Theory

Chapter 8

Exploring new roads