

# Template

# Contents

	Page
<b>1 Introduction</b>	<b>3</b>
<b>2 Basic Concepts</b>	<b>3</b>
<b>3 Further Discussions</b>	<b>3</b>

# 1 Introduction

**Definition 1.1. Set** A set is a collection of distinct objects, considered as an object in its own right.

$$\{a, b, c\} = \{b, c, a\}$$

**Notation 1.1. Test** tt

As defined in definition 1.1, a set can contain any type of objects.

**Theorem 1.1. Unique Element Theorem** Every non-empty set has at least one element.

Refer to theorem 1.1 for more details.

## 2 Basic Concepts

**Definition 2.1. Empty Set** An empty set is a set with no elements.

As defined in definition 2.1, the empty set plays a fundamental role in set theory.

**Theorem 2.1. De Morgan's Laws** The complement of the union of two sets is the intersection of their complements, and vice versa.

## 3 Further Discussions

**Definition 3.1. Infinite Set** An infinite set is a set that is not finite; it has no last element.

As defined in definition 3.1, infinite sets are crucial in various mathematical contexts.

**Theorem 3.1. Countable Infinite Sets** A set is countably infinite if its elements can be put into a one-to-one correspondence with the natural numbers.

$$\int f(x)dx$$

$$\int_x^a f(x)dx$$

**Note.** He

**Proposition 3.1.** HI

**Lemma 3.1.** hi

Refer to theorem 3.1 for more insights.

## References