

# Year 12 Maths

L. Cheung

November 10, 2024

# Contents

<b>1</b>	<b>Extension 1</b>	<b>2</b>
1.1	Vectors . . . . .	2
1.1.1	Introduction . . . . .	2
<b>2</b>	<b>Extension 2</b>	<b>3</b>
2.1	Complex Numbers . . . . .	3

# Chapter 1

## Extension 1

### 1.1 Vectors

#### 1.1.1 Introduction

##### Definitions

Scalar  $\rightarrow$  A quantity that only has magnitude

Vector  $\rightarrow$  A quantity that has a magnitude as well as a direction

Vectors can be represented geometrically by using a segment of a line. The size is the segment's length and the direction is indicated by a line and arrow.

There are three main notations of vectors:  $\overrightarrow{AB}$ ,  $\vec{a}$ , or bolded letters (Uncommon, but part of syllabus).

When using vectors, only size and direction matter, not where the vector starts and ends.

The negative of a vector has the same magnitude but in the opposite direction, ie.  $\overrightarrow{AB} = -\overrightarrow{BA}$

## Chapter 2

## Extension 2

### 2.1 Complex Numbers