Year 12 Maths

L. Cheung

November 12, 2024

Contents

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