|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **H Unit 18:**  **Vectors** | **Road Map** | | | | | |
| In this unit you will learn about geometry. The aims are as follows:  **LG1**: Knowledge  **LG2**: Application  **LG3**: Skills | Assessment Grades |  |  | | | |
|  | |  | | | |
|  | |  | | | |
|  | |  | | | |
|  | |  | | | |
|  | |  | | | |
| **Themes** | **Learning Goals/Outcomes/Content** | | |  |  |  |
| 18 Vectors and geometric proof | Understand and use vector notation, including column notation, and understand and interpret vectors as displacement in the plane with an associated direction. | | |  |  |  |
| Understand that 2**a** is parallel to **a** and twice its length, and that **a** is parallel to –**a** in the opposite direction. | | |  |  |  |
| Represent vectors, combinations of vectors and scalar multiples in the plane pictorially. | | |  |  |  |
| Calculate the sum of two vectors, the difference of two vectors and a scalar multiple of a vector using column vectors (including algebraic terms). | | |  |  |  |
| Find the length of a vector using Pythagoras’ Theorem. | | |  |  |  |
| Calculate the resultant of two vectors. | | |  |  |  |
| Solve geometric problems in 2D where vectors are divided in a given ratio. | | |  |  |  |
| Produce geometrical proofs to prove points are collinear and vectors/lines are parallel. | | |  |  |  |

**Links:**

LG1: You will represent vectors pictorially and using column notation. You will add, subtract and find scalar multiples of vectors, and use Pythagoras to find the magnitude of a vector.

LG2: You will apply your knowledge of vectors to solve problems where vectors are divided in a given ratio or fraction.

LG3: You will use your problem solving skills and mastery of vectors to construct proofs that vectors are parallel or colinear.