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| **Year 1 pure unit 6: Vectors (2d)** | **Road Map** | | | | | |
| In this unit you will learn about pure mathematics. The aims are as follows:  **LG1**: Knowledge  **LG2**: Application  **LG3**: Skills | Assessment Grades |  |  | | | |
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| **Themes** | **Learning Goals/Outcomes/Content** | | |  |  |  |
| **6a. Definitions, magnitude/direction, addition and scalar multiplication** | be able to use vectors in two dimensions; | | |  |  |  |
| be able to calculate the magnitude and direction of a vector and convert between component form and magnitude/direction form; | | |  |  |  |
| be able to add vectors diagrammatically and perform the algebraic operations of vector addition and multiplication by scalars, and understand their geometrical interpretations. | | |  |  |  |
| **6b. Position vectors, distance between two points, geometric problems** | understand and be able to use position vectors; | | |  |  |  |
| be able to calculate the distance between two points represented by position vectors; | | |  |  |  |
| be able to use vectors to solve problems in pure mathematics and in context, (including forces). | | |  |  |  |

**Links:**

LG1: You should know how to work with vectors in 2 dimensions. They will be able to calculate magnitude and direction of a vector and convert between component form and magnitude / direction form. You will learn how to add vectors and multiply by scalars. You should know how to calculate the distance between two points represented by position vectors.

LG2: You should be able to apply your knowledge of vectors to prove that vectors are parallel or are colinear.

LG3: You will solve routine and non-routine problems combining skill sets from different areas of Mathematics, in context where appropriate. For example, solving problems involving forces.