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| **Year 1 pure unit 5: Trigonometry** | **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** |  |  |  |
| **5a. Trigonometric ratios and graphs** | understand and be able to use the definitions of sine, cosine and tangent for all arguments; |  |  |  |
| understand and be able to use the sine and cosine rules; |  |  |  |
| understand and be able to use the area of a triangle in the form $\frac{1}{2}ab sin C$; |  |  |  |
| understand and be able to use the sine, cosine and tangent functions; their graphs, symmetries and periodicity. |  |  |  |
| **5b. Trigonometric identities and equations** | be able to solve trigonometric equations within a given interval |  |  |  |
| understand and be able to use $\tan(θ)=\frac{\cos(θ)}{\sin(θ)}$ |  |  |  |
| Understand and use sin2 *θ* + cos2 *θ* = 1 |  |  |  |

**Links:**

LG1: You should know sine and cosine rules and how to find the area of a triangle using ½ ab Sin C. You should know what the graphs of trigonometric functions look like and be able to describe features and properties of their graphs. You should know trigonometric identities and be able to solve simple trigonometric equations.

LG2: You should be able to apply your knowledge of trigonometric functions and graphs to be able to find additional solutions to a trigonometric equation within a given range. You should be able to apply trigonometric identities to an equation with more than one trigonometric function in order to form an equation that can be solved.

LG3: You should have sufficient mastery and understanding of the procedures in this topic that you can use more than one trigonometric identity to form and solve a quadratic equation, finding all solutions within a given range. You should be able to explain why some solutions are not defined for the given trigonometric function.