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| **Year 1 pure unit 2: Algebra and functions (part 2)** | **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** |  |  |  |
| **2a. Inequalities: linear and quadratic (including graphical solutions)** | be able to solve linear and quadratic inequalities; |  |  |  |
| know how to express solutions through correct use of ‘and’ and ‘or’ or through set notation; |  |  |  |
| be able to interpret linear and quadratic inequalities graphically; |  |  |  |
| be able to represent linear and quadratic inequalities graphically. |  |  |  |
| **2b. Graphs: cubic, quartic and reciprocal** | understand and use graphs of functions; |  |  |  |
| be able to sketch curves defined by simple equations including polynomials; |  |  |  |
| be able to use intersection points of graphs to solve equations. |  |  |  |
| **2c. Transformations: transforming graphs , f(*x*) notation** | understand the effect of simple transformations on the graph of *y* = f(*x*);  |  |  |  |

**Links:**

LG1: You need to know how to solve inequalities including quadratic inequalities and represent them graphically. You will learn how to manipulate polynomials including by division and know how to use the factor theorem. You will know how to sketch graphs of a range of different functions and use them to solve equations. You will learn how changes to a function will transform the associated graph.

LG2: You will be able to apply their knowledge to explain where and why asymptotes occur on graphs of functions.

LG3: You will solve a variety of routine and non-routine problems, by combining several Mathematical skill sets. You should have sufficient mastery of transformations of functions to be able to describe the potential effects of an unknown constant on a function.