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| **H Unit 9: Quadratics** | **Year 11 Road Map** |
| In this unit you will learn about algebra. The aims are as follows:**LG1**: Knowledge **LG2**: Application **LG3**: SkillsAssessment Grades |
|  | **Learning Goals/Outcomes/Content** | Video clips | R A G |  |  |
| **9 Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics** |
| 1 | Sketch a graph of a quadratic function, by factorising or by using the formula, identifying roots and *y*-intercept, turning point;  | 160 |  |  |  |
| 2 | Be able to identify from a graph if a quadratic equation has any real roots; | 160 |  |  |  |
| 3 | Find approximate solutions to quadratic equations using a graph;  | 160 |  |  |  |
| 4 | Expand the product of more than two linear expressions; | 178 |  |  |  |
| 5 | Sketch a graph of a quadratic function and a linear function, identifying intersection points;  | 140 |  |  |  |
| 6 | Sketch graphs of simple cubic functions, given as three linear expressions;  | 161 |  |  |  |
| 7 | Solve simultaneous equations graphically:  | 140 |  |  |  |
| 8 | find approximate solutions to simultaneous equations formed from one linear function and one quadratic function using a graphical approach; | 140 |  |  |  |
| 9 | find graphically the intersection points of a given straight line with a circle; | 140 |  |  |  |
| 10 | solve simultaneous equations representing a real-life situation graphically, and interpret the solution in the context of the problem; | 140 |  |  |  |
| 11 | Solve quadratic inequalities in one variable, by factorising and sketching the graph to find critical values;  | 212 |  |  |  |
| 12 | Represent the solution set for inequalities using set notation, i.e. curly brackets and ‘is an element of’ notation; |  |  |  |  |
| 13 | for problems identifying the solutions to two different inequalities, show this as the intersection of the two solution sets, i.e. solution of *x*² – 3*x* – 10 < 0 as {*x*: –3 < *x* < 5}; |  |  |  |  |
| 14 | Solve linear inequalities in two variables graphically;  | 198 |  |  |  |
| 15 | Show the solution set of several inequalities in two variables on a graph;  | 198 |  |  |  |
| 16 | Use iteration with simple converging sequences.  | 180 |  |  |  |
| Student’s comments and questions |