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| **F Unit 8:** **Algebra: Quadratic equations and graphs** | **Year 10 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 |  |  |
| **8a Quadratic equations: Expanding and factorising** |
| 1 | Define a ‘quadratic’ expression;  |  |  |  |  |
| 2 | Multiply together two algebraic expressions with brackets;  | 134a, 134b |  |  |  |
| 3 | Square a linear expression, e.g. (*x* + 1)2; | 134b |  |  |  |
| 4 | Factorise quadratic expressions of the form *x*2 + *bx* + *c*; | 157 |  |  |  |
| 5 | Factorise a quadratic expression *x*2 – *a*2 using the difference of two squares:  | 157 |  |  |  |
| 6 | Solve quadratic equations by factorising;  | 157 |  |  |  |
| 7 | Find the roots of a quadratic function algebraically.  | 157 |  |  |  |
| **8b Quadratic equations: Graphs** |
| 8 | Generate points and plot graphs of simple quadratic functions, then more general quadratic functions;  | 98 |  |  |  |
| 9 | Identify the line of symmetry of a quadratic graph;  | 160 |  |  |  |
| 10 | Find approximate solutions to quadratic equations using a graph;  | 160 |  |  |  |
| 11 | Interpret graphs of quadratic functions from real-life problems;  |  |  |  |  |
| 12 | Identify and interpret roots, intercepts and turning points of quadratic graphs.  | 160 |  |  |  |

Student’s comments or questions