Subject	Year	Month	
Mathematics	11	October	Balcarras *From strength to strength*

Topic:

Sketching Algebraic Graphs
5 lessons

Content (Intent)

Prior Learning	**Future Learning**
Year 10 Quadratic graphs March	Year 12
Year 10 Solving quadratic equations algebraically June	Pure Chapter 2 Quadratics
Year 10 Simultaneous equations June	Pure Chapter 3 Equations and inequalities
	Pure Chapter 4 Graphs and transformations

Objectives

- Sketch a graph of a quadratic function, by factorising, identifying roots and y-intercept, turning point;
- Be able to identify from a graph if a quadratic equation has any real roots;
- Find approximate solutions to quadratic equations using a graph;
- Expand the product of more than two linear expressions;
- Sketch a graph of a quadratic function and a linear function, identifying intersection points;
- Sketch graphs of simple cubic functions, given as three linear expressions;
- Solve simultaneous equations graphically:
- find approximate solutions to simultaneous equations formed from one linear function and one quadratic function using a graphical approach;
- find graphically the intersection points of a given straight line with a circle;
- solve simultaneous equations representing a real-life situation graphically, and interpret the solution in the context of the problem;
- Solve quadratic inequalities in one variable, by factorising and sketching the graph to find critical values;
- Solve linear inequalities in two variables graphically;
- Show the solution set of several inequalities in two variables on a graph;

Pedagogical notes (implementation)	How will understanding be assessed & recorded (Impact)
You may want to extend the students to include expansions of more than three linear expressions. Practise expanding 'double brackets' with all combinations of positives and negatives.	**End of half term** no **End of Year** Mocks in November yr11
	How can parents help at home?
	MathsWatch clips (Qualification KS4) 98: Drawing Quadratic Graphs 178 Product of Three Binomials 161: Cubic and Reciprocal Graphs 140: Simultaneous Equations Graphically 211: Simultaneous Equations with a Quadratic 197: Equation of a Circle 212: Solving Quadratic Inequalities 198: Regions

Further reading/discussion			
Reading / Enrichment http://passyworldofmathematics.com/sydney-harbour-bridge-mathematics/	**Literacy**	**Numeracy Links**	**Careers Links** Engineer Physicist Statistician