



Activity type	classroom <input checked="" type="checkbox"/> homework <input type="checkbox"/> independent learning <input type="checkbox"/> other <input type="checkbox"/>		
Activity objectives(s)	To be able to sketch the graphs of quadratics from their equations by identifying the <ul style="list-style-type: none"> - shape - y-intercept - roots - axis of symmetry - turning point 		
Activity resources(s)	This lesson is best done with an interactive whiteboard and a set of laptops or in a computer suite.		
Delivery mode	teacher led <input checked="" type="checkbox"/> student led <input type="checkbox"/>	Collaboration type	individual <input checked="" type="checkbox"/> pairs <input checked="" type="checkbox"/> groups <input type="checkbox"/>
Task description	<p>Display Nat 5 Unit 1 Topic 18.3 on the board</p> <p>Allow students to work through the activity Sketching a Quadratic Graph from its Equation It covers quadratic equations of the form $y = k(x+a)^2+b$ Two worked examples follow and two questions for pupils to try</p> <p>The next activity covers equations of the form $y = (x + a)(x + b)$ and is followed by two worked examples and two questions</p> <p>Students can then attempt the Sketching a quadratic graph from its equation exercise which has 7 questions. Pupils should be encouraged to show working in their jotters</p> <p>Students should then complete some questions from the textbook or from the board</p>		



SCHOLAR Lesson Outline

Differentiation (Alternative use)	<p>Some students may struggle with this topic. You may wish them to work through Nat 5 Unit 1 Topic 18.1 Identifying the features of a quadratic function for extra practice first.</p> <p>You may need to remind some students of what the y-intercept, turning point and roots are.</p>
Hints & Tips	<p>Ask students to show you their score from the exercise and send them back to try again if they do not get at least 80%.</p> <p>A plenary session could include summarising the sketching process. A homework task could be to summarise how to sketch a quadratic graph from its equation plus some questions from the textbook.</p> <p>The SCHOLAR part of the lesson does not require students to draw the graphs just to identify all the important points on the graph. You could ask students to sketch the graphs in their jotter. This would allow you to give them feedback on their sketching skills.</p> <p>Students will have to be given time to physically practice sketching either in class or at home.</p>
Notes	<p>The SCHOLAR part of this lesson may take the whole period.</p> <p>Students will require prior knowledge of the features of a quadratic function. This can be found in Nat 5 Unit 1 Topic 18.1</p> <p>SCHOLAR uses the terms "smiley" and "sad" in relation to the shape of a parabola when the coefficient of x^2 is positive or negative respectively. Identifying the nature of turning points is included along with the coordinates turning points.</p>