

UTC Maths Department Learning Cycles 2019 – Year 11 Higher

Cycle 2.6 ALGEBRA	Cycle 2.7 GEOMETRY	Cycle 2.8 ALGEBRA AND PRE-CALCULUS	Cycle 2.9 Revision of Topics 7 - 8	Cycle 2.10 Revision of Topics 7 - 8
<p align="center">Topics</p> <ul style="list-style-type: none"> • Simplify algebraic fractions • Solve equations with algebraic fractions • Change the subject of a formula • Inverse functions • Composite functions • Solve quadratic equations by factorising • Problem solving - form and solve equations • Recognise and use the equation of a circle • Find the equation of a tangent • Find approximate solutions using a graph • Sketch translations and reflections 	<p align="center">Topics</p> <ul style="list-style-type: none"> • Circle theorems (angles in centre, angles at same arc, angles on semi circle, cyclic quadrilaterals, tangents to a circle, alternate segment) • Know and apply the sine rule and cosine rule 	<p align="center">Topics</p> <ul style="list-style-type: none"> • Interpret the gradient at a point on a curve as the instantaneous rate of change • Apply the concepts of average and instantaneous rates of change • Sketch graphs of linear quadratic, cubic and reciprocal functions and identify key parts • Calculate or estimate gradients of graphs and areas under graphs • Interpret the results in cases such as distance-time graphs, velocity-time graphs and graphs in financial contexts 	<p align="center">Topics (Subject to change based on mock analysis)</p> <ul style="list-style-type: none"> • Direct and inverse proportion • Solving quadratic equations using the formula • Transformation • Properties of number • Solving quadratics by completing the square • Applying Pythagoras' theorem in 3D • Problem solving • Revision and exam techniques 	
Keywords Surd Identity	Keywords Theorem Proof Chord	Keywords Root, intercept and turning point	Keywords	Keywords
Topic Assessments Used Unit test	Topic Assessments Used Unit test	Topic Assessments Used Unit test	Topic Assessments Used Mock and pact papers	Topic Assessments Used Mock and pact papers