










## MATHEMATICS: GRADE 9 2014

TOPIC	2014 WORK SCHEME	PORTFOLIO ASSESSMENT TASKS
<b>PHASE 1 (4 November 2013 – 28 March 2014)</b>		
Algebra	Binomial Products	 <b>Task 1</b> Control test: 29-4 Dec 2013
	Factorisation (Common Factor, Difference of 2 squares, Trinomials)	
	Laws of Exponents	
Numbers, Operations and Relationships	Rational Numbers- representation and use	 <b>Task 2</b> Investigation on Number Patterns. Deadline date: 17 – 21 February
	Scientific Notation	
	Using exponent laws in calculations	
Algebraic Methods	Equations: algebraic solution, brackets and fractions, substitution	
	Using factorization to simplify fractions	
Pythagoras	Finding unknown lengths in figures and solids	 <b>Task 3</b> March control test on AS's to date: 24 March -28 March
	Application to irrational numbers( Surd form and rational approximations)	
Relationships and Modeling	Investigations (Patterns, Functions in Algebra)	
	Recording and representation (Flow charts and Tables)	
	Solution as a rule or formula	
<b>PHASE 2 (7 April 2014 – 27 June 2014)</b>		
Ratio and proportion	Direct and indirect proportion	 <b>Task 4</b> Investigation on Graphs Deadline date: 19 –23 May.
Time , Distance , Speed	Solution of problems with regard to ratio and rate	
Problems and Calculations	Proportion (Direct and Inverse) and related graphs	
Positioning	Scale Drawing	 <b>Task 5</b> June Exam on all AS's to date: 17 – 27 June
Graphs and Interpretations	Cartesian Plane and co-ordinates	
	Drawing graphs using tables and rules	
	Straight Line graph (Drawing, Features: Gradient, y-int., finding rule from graph and table)	
Trans-formations	Review of concepts: translation, rotation and reflection	
	Translations with co-ordinates	
	Reflections with axes	
	Rotation about the origin	
<b>PHASE 3 (21 July 2014 – 31 October 2014)</b>		
Finance	Simple and compound interest, hire purchase	 <b>Task 6</b> Investigation on finance: 11 – 15 August
Geometric Properties	Congruency: 4 axioms, simple proofs and deductions	
	Similarity: fundamental basics	
	Classification of quadrilaterals	 <b>Task 7</b> Control test on Phase 3 work: Scheduled for week of 29 Sept – 3 Oct
Data Handling	Collection, Central tendencies, graphical representations and analysis	
Probability	Listing possible outcomes	 <b>Task 8</b> Phase 3 Final exam: 17 Oct to 31 Oct
	Probability of an outcome by definition	
	Relative frequency of outcomes	
	Comparing relative frequency to theoretical probability	
	Compound events (tree diagrams)	
<b>PHASE 3 into PHASE 1 GRADE 10 2015 (3 November 2014 –10 December 2014)</b>		
Finance	Budgeting, Interest, Exchange rates, Commission, Banking: covered in EMS lessons after October exams.	 <b>Task 1</b> Control test: week of 5-10 Dec 2014
Algebra	Manipulating algebraic expressions and fractions: Products and factorising by common factor, grouping, trinomials, difference of 2 squares, sum and difference of cubes.	
Algebra	Simplifying algebraic fractions: factorising denominators, operations: adding, subtracting, multiplying and dividing.	