









MATHEMATICS GRADE 11 2014

| TOPIC | ASSESSMENT STANDARDS | PORTFOLIO ASSESSMENT TASKS |
|--|---|--|
| PHASE 1 (1 November 2013 – 28 March 2014) | | |
| Algebra | Solve quadratic equations and inequalities |  Task 1 Control test: December 2013 |
| | Algebraic expressions : algebraic fractions | |
| | Solve equations in 2 unknowns, one quadratic (simultaneous) | |
| | Number systems and nature of roots | |
| Functions | Investigate characteristics of: $y = a(x + p)^2 + q$ and $y = \frac{a}{x + p} + q$ |  Task 2 Investigation: Projectile Motion (done in school time – end February) |
| | Average gradient between points on a curve | |
| Number patterns | Investigate number patterns, leading to quadratic patterns |  Task 3 March Control test on work to date. Scheduled: 25 - 28 March |
| Co-ordinate Geometry | Parallel, perpendicular, inclination | |
| | Equation of a straight line | |
| | <i>Solve unseen problems</i> | |
| PHASE 2 (8 April – 28 June 2014) | | |
| Exponents and Function | Rational exponents, surds and error margins |  Task 4 Revision assignment: paper 2 topics: due date 5 May |
| | Investigate characteristics of exponential function $y = ab^{x+p} + q$ | |
| Finance | Simple and compound decay |  Task 5 June Examinations: Paper 1: Algebra and functions Paper 2: Co-ordinate geom. and Trig |
| | Nominal and effective interest rates | |
| | Rate and periods in compound growth and decay | |
| Trigonometry | Reduction, mutual, square formulae | Examinations: Paper 1: Algebra and functions Paper 2: Co-ordinate geom. and Trig |
| | Trigonometric equations and general solution | |
| | <i>Solve unseen problems</i> | |
| PHASE 3 (21 July – 29 October 2014) | | |
| Geometry | Geometry of the Circle: Theorems, Converses and applications |  Task 6 Control test – Circle geometry (end August) |
| | Surface area & volume of right-pyramids, cones, spheres | |
| Trigonometry | Sine, cosine and area rules for triangles |  Task 7 Assignment: Statistics 11 - 12 September (done at school) |
| | Functions: $y = \sin k(x + p)$; $y = \cos k(x + p)$; $y = \tan k(x + p)$ | |
| Statistics | Graphical representations of data: Histogram; frequency polygon; ogive curves |  Task 8 October exams Paper 1: Algebra and functions; finance; Probability Paper 2: Co-ordinate Geom.; Euclidean Geom.; Trig and Stats |
| | Variance and standard deviation | |
| | Symmetric and skewed data | |
| Probability | Venn diagrams and sample space; union and intersection; disjoint and complementary events | October exams Paper 1: Algebra and functions; finance; Probability Paper 2: Co-ordinate Geom.; Euclidean Geom.; Trig and Stats |
| | Dependent, independent events and the product rule | |
| | Solving problems using tree and Venn diagrams | |
| | <i>Solve unseen problems</i> | |
| Consolidation | Exam preparation | |