**MATHEMATICS - GRADE 12 – 2023**

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| **TOPIC** | **ASSESSMENT STANDARDS** | **PORTFOLIO ASSESSMENT TASKS** |
| **PHASE 1 (14 November 2022 – 10 March 2023)** |
| **Statistics** | Bivariate data and regression; correlation | **Task 1**Assignment: Stats & Seq23 – 27 Jan**Task 2**Control Test A: Seq & Series30 Jan – 3 FebControl Test B: Trig 6 – 10 Mar**Task 3**Investigation: Finance20 – 24 Feb  |
| **Number patterns** | Arithmetic Series |
| Geometric Series |
| Infinite Geometric series; Sigma notation |
| **Trigonometry** | Compound Angle and Double Angle formulae |
| Identities and Equations |
| **Financial Mathematics** | Calculation of time period |
| Future value annuity formula |
| Present value annuity formula |
| **Analytical Geometry** | Equation of a circle (any centre) |
| Equations of tangents to circles |
| **PHASE 2 (13 March 2023 – 9 June 2023)** |
| **Polynomials** | Remainder and Factor theorem | **Task 4**June Exams22 May – 9 June **Task 5 Part A**Controlled Test:Calculus1 – 5 May |
| **Calculus**  | Calculus; limits and first principles  |
| Rules for differentiation |
| Sketch graphs of cubic functions |
| Applications to problems – max / min; rates of change |
| **Trigonometry** | Functions y = sin k(x + p) + q ; y = cos k(x + p) + q and  y = tan k(x + p) + q |
| Solution of problems in 2 and 3 dimensions |
| **PHASE 3 (12 June 2023– 20 October 2023)** |
| **Euclidean Geometry** | Proportional Intercept theorems | **Task 5 Part B**Controlled Test B: Euclidean Geom.7 – 11 Aug**Task 6**Trials Exam28 Aug – 15 Sept |
| Similar triangles |
| Proof of the theorem of Pythagoras |
| **Probability** | Revise Dependent and Independent events |
| Revise Venn Diagrams and other techniques |
| Fundamental counting principle |
| **Functions** | Definition of a function |
| Inverses of functions |
| Logarithmic function |
| **Consolidation** | Revision |