**MATHEMATICS - GRADE 12 – 2022**

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| **TOPIC** | **ASSESSMENT STANDARDS** | **PORTFOLIO ASSESSMENT TASKS** |
| **PHASE 1 (15 November 2021 – 25 March 2022)** |
| **Statistics** | Bivariate data and regression; correlation | **Task 1:** Assignment: Stats & Seq24 – 28 Jan**Task 2:** Control Test A: Seq & Series31 Jan – 4 FebControl Test B: Trig 7 – 11 Mar**Task 3:** Investigation: Finance21 – 25 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 (5 April 2022 – 10 June 2022)** |
| **Polynomials** | Remainder and Factor theorem | **Task 4:** June Exams 30 May – 10 June **Task 5A:** Controlled Test Calculus3 – 6 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 (13 June 2022 – 21 October 2022)** |
| **Euclidean Geometry** | Proportional Intercept theorems | **Task 5 B:** Controlled Test: Euclidean Geom.10 – 12 Aug**Task 6**Trials Exam29 Aug – 16 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 |