**MATHEMATICS - GRADE 9 2021**

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| **TOPIC** | **ASSESSMENT STANDARDS** | **PORTFOLIO ASSESSMENT TASKS** |
| **PHASE 1 (15 February 2021 – 23 April 2021)** | | |
| **Time, distance and speed** | Solution of problems with regard to ratio and rate | **Task 1:** Assignment: Number patterns  8 – 12 Mar    **Task 2:** Control test:  12 – 23 March |
| Proportion (direct and indirect) and related graphs |
| **Algebra** | Binomial products |
| Equations and word problems |
| Exponents: laws and definitions |
| **Relationships and modelling** | Investigate patterns and functions in Algebra |
| Recording and representation: flow charts and tables |
| Solution as a rule or formula |
| **Numbers, Operations and Relationships** | Rational numbers: representation and use |
| Scientific notation |
| Using exponential laws in calculations |
| **Algebraic methods** | Equations: algebraic solution, brackets and fractions, substitution |
| **PHASE 2 (3 May 2021 – 9 July 2021)** | | |
| **Theorem of Pythagoras** | Finding unknown lengths in figures and solids | **Task 3:** Investigation: Congruency and similarity  24 May – 4 June  **Task 4:** Control test  28 June – 9 July |
| Application to irrational numbers: surd form and irrational approximation |
| **Geometric properties** | Congruency: 4 axioms, simple proofs and deductions |
| Similarity: fundamental basics |
| Classification of quadrilaterals |
| **PHASE 3 (26 July 2021 – 26 November 2021)** | | |
| **Algebra** | Factorisation: common factor, difference of two squares, trinomials | **Task 5:** Project: Functions and relations (graphs)  23 – 27 Aug    **Task 6:** Controlled Test  13 – 17 September  **Task 7:** Year-end Control test  15 – 26 Nov |
| Using factorisation to simplify fractions |
| **Graphs and interpretations** | Cartesian plane and coordinates |
| Drawing graphs using tables and rules |
| Straight line graphs: drawing, features (gradient, y-intercept), finding rule from graph and table |
| **Data Handling** | Collection, Central tendencies, graphical representations and analysis |
| **Transformations** | Review of concepts: translation, rotation and reflection |
| Translations with coordinates |
| Reflections with axes |
| Rotations about the origin |
| **Finance** | Simple and compound interest, Hire purchase |
| **Probability** | Listing possible outcomes |
| Probability of an outcome by definition |
| Relative frequency of an outcome |
| Comparing relative frequency to theoretical probability |
| Compound events : tree diagrams |