Ascot High School Department

Mathematics Department

Grade 10 CSEC Curriculum

September - December 2025

Introduction:

Based on the philosophy that mathematics is all around us and that everyone uses and understands some mathematics, the Mathematics Curriculum for Grade 10 CSEC is designed to:

- build students' learning and numeracy skills by exploring and applying the model of the 4Cs (creativity, critical thinking, collaboration and communication), while gaining knowledge of the content area;
- correct, where necessary, and build upon the knowledge of students through activities related to everyday life, applying mathematical principles of investigating, reasoning, estimating, forming conjectures and testing them, and through meaningful communication;
- expand knowledge through the formation of new concepts while establishing the inter-relatedness of mathematics with other disciplines;
- enable the development of attitudes of self-awareness and self-confidence, appreciation of enquiry, independent thinking, willingness to share, and cooperation with others in the pursuit of knowledge.
- help students' build life skills in order for them to be; flexible, productive, have good initiatives, exercise healthy habits, be a good leader and to be able to develop their social skills; by implementing the concept of the National Goals (Jamaicans are empowered to achieve their fullest potential, The Jamaican society is secure, cohesive and just, Jamaica's economy is prosperous, Jamaica has a healthy natural environment) while gaining knowledge of the content areas.

Unit Title	**Previous Knowledge:** Check that students can:	**Standard**	**Key Skills**	**Specific Objectives:** Students should be able to:	**Duration**	**Assessment**	**Resources**

ALGEBRA	• perform the four operations on integers • define and identify variables, terms, constant, coefficient, expression, equation and operations • identify, add and subtract like and unlike • solve linear equations in one unknown;	Employ algebraic reasoning through the use of expressions, equations and formulae to interpret, model and solve problems involving unknown quantities.	• Group like terms • Simplify like terms • Work in groups • Engage in class discussion	**1.** use the laws of indices to manipulate expressions with integral indices; For $m \in \mathbb{Z}$, $n \in \mathbb{Z}$. *(i)* $x^m \times x^n = x^{m+n}$ *(ii)* $\frac{x^m}{x^n} = x^{m-n}$ *(iii)* $(x^m)^n = x^{m \times n}$ *(iv)* $x^{-m} = \frac{1}{x^m}$ **2.** apply the distributive law to factorize or expand algebraic expressions; $x(a + b) = ax + bx$ and $(a + b)(x + y) = ax + bx + ay + by.$ **3.** change the subject of formulae; **4.** Factorize algebraic expressions; *Expressions of the type:* $a^2 + b^2$ $a^2 \mp 2ab + b^2$ $ax + bx + ay + by$ $ax^2 + bx + c$	2 weeks 2 weeks 2 weeks	• Practice questions from past paper booklet • Home work/ class work ongoing weekly • Pop- Quiz	• Algebra tiles • Teacher-generated worksheets

				Where a and b are integers and a ≠0 **5.** substitute numbers for variables in algebraic expressions; **6.** define simultaneous linear equations **7.** solve simultaneous linear equations, in two unknowns, algebraically by methods of elimination and substitution.	1 week 2 weeks		

ASSESSMENTS:
A unit test will be done at the end of each unit. For each sub-topic students will be assessed using graded class work and homework assignments along with any other form of assessment the teacher may devise.
Homework: 10% of the overall grade for the semester
Class Work: 10% of the overall grade for the semester
Sessional Test 1: 20%
Practical: 20%
End of Term Exam: 40% of the overall grade for the semester