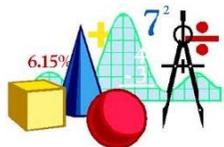


Third Form Mathematics Syllabus



Term I

Computation I: Applying the operations of adding, subtracting, multiplying and dividing to whole numbers, decimals and fractions. The rule of BODMAS (brackets, of, division, multiplication, addition and subtraction). Find squares and square roots. Finding the reciprocal of integers and fractions.

Algebra I: Directed numbers; substitution; collecting like terms; and simplifying expressions using the basic mathematical operations. Operations; and algebraic fractions. Factorising simple expressions.

Geometry I: Geometrical transformations — translation, reflection, rotation and enlargement.

Consumer Arithmetic I: Profit and loss; discount and sales tax and hire purchase. Commission; wages and salaries; and income tax. Utilities bills and calculating the marked price.

Statistics and Probability: Definition of statistics. Collecting data using a tally chart and organizing it into a frequency table. Analysing and interpreting data, calculating averages and determining the range of a set of data. Illustrating data by means of pictographs, bar charts, pie charts and line graphs. Illustrating data by means of histograms and frequency polygons. Calculating the mean, mode and median. Probability.

Geometry II: Constructing angles (30° , 45° , 60° , 90° and 120°), triangles and quadrilaterals. Constructing the perpendicular bisector of a line.

Term II

Computation II: Approximation; rounding off to the nearest whole number, ten (tenth), hundred (hundredth), etc, and rounding to decimal places. Ratio and proportion. Money conversion. Use standard form. Express a given number in significant figures.

Algebra II: Indices; equations and inequations, and word problems. Changing the subject of the formula. Simultaneous equations.

Consumer Arithmetic II: Simple interest, compound interest and depreciation.

Measurement: Measurement of length, area, volume, mass and time. Perimeter & area of triangles, quadrilaterals and combination shapes. Cuboids; calculating the total length of the edges, total surface area, and volume. Calculating speed, distance and time. Determine the circumference and area of a circle. Length of an arc, area of a sector, volume of simple prisms and pyramids.

Relations, Functions and Graphs: Relations, mappings and functions. Coordinates and graphs of simple linear functions. Interpret information on travel graphs. Function notation and graphs of quadratic functions. Equation of a straight line ($y = mx + c$).

Term III

Geometry II: Pythagoras' Theorem and the distance formula.

Trigonometry: Definitions of sine, cosine and tangent for right-angled triangles, and their use in simple calculations; the angle of elevation and depression, altitude and bearings. Solve word problems.

Set Theory (revise): Definition of a set; element or member of a set; set representation; types of sets (finite, infinite and null); equal and equivalent sets; union, intersection and complement; and Venn diagrams and their use in simple logical problems (two sets only). Recognize the subsets of a set

Number Theory (revise): Sets of numbers (natural numbers, whole numbers, integers, rational and irrational numbers, and real numbers); sequences; arranging numbers in order of size; LCM and HCF; odd and even numbers; prime and composite numbers. Know the laws of indices.

Revision: Past examination papers.

NOTE:

1. At the end of each topic there will be a test on the material covered.
2. At the end of the school year there will be a promotional examination based on work covered during the year.
3. Ten percent of Terms I and II will go towards the promotional examination mark at the end of Term III.
4. Homework assignments will be given at regular intervals. Please check the appropriate book to see how your child is progressing.

5. All students must have **at least** two light-blue CCFS exercise books (1 for tests only, & 1 for class work & homework), a graph book, a geometry set & a calculator. The required text book is CXC Basic Mathematics by Greer/Layne.
-