

JAMAICA_ C.X.C. Course

Table of Content

1. Computation

- 1.1 Operations with Whole Numbers
- 1.2 Word Problems - Whole Numbers
- 1.3 Operations with Fractions
- 1.4 Operations with Decimals
- 1.5 Word Problems - Decimals
- 1.6 Mixed Operations - Decimals
- 1.7 Rounding Decimals
- 1.8 Terminating and Non Terminating Decimals
- 1.9 Approximation: Significant Figures
- 1.10 Converting Decimals to Scientific Notation
- 1.11 Ratios
- 1.12 Proportions
- 1.13 Direct and Inverse Proportion
- 1.14 Understanding Percents
- 1.15 Converting Percentages to Fractions or Decimals and Vice versa
- 1.16 Arithmetic Mean

2. Number Theory

- 2.1 Introduction
- 2.2 Irrational Numbers
- 2.3 Real Numbers and their Decimal Expansions
- 2.4 Operations on Real Numbers
- 2.5 Laws of Exponents for Real Numbers
- 2.6 Properties of Square Numbers
- 2.7 Patterns of Square Numbers
- 2.8 Prime and Composite Numbers
- 2.9 Prime Factorization
- 2.10 Highest Common Factor
- 2.11 Multiples and LCM

2.12 Sequence of Numbers

3. Consumer Arithmetic

3.1 Application Problems involving Markup, Discount, Sales Tax, and Profit

3.2 Applications involving Simple Interest, using the Formula $I=Prt$

3.3 Applications involving Compound Interest

4. Sets

4.1 Sets and Their Representation

4.2 Types of Sets

4.3 Subset and Superset

4.4 Operations on Sets

4.5 Laws of Algebra of Sets

4.6 Some Important Results on Number of Elements in a Set

5. Measurement

5.1 Perimeter of Plane Figures

5.2 Area of Plane Figures

5.3 Perimeter and Area of a Circle

5.4 Areas of Sector and Segment of a Circle

5.5 Areas of Special Figures

5.6 Areas of Rectangular Paths

5.7 Surface Area and Volume of Solids

5.8 Pyramid and Regular Octahedron

6. Statistics

6.1 Presentation of Data

6.2 Graphical representation of data

6.3 Median of Grouped Data

6.4 Mean of Grouped Data

6.5 Mode of Grouped Data

6.6 Quartiles

6.7 Probability

7. Algebra

7.1 Understanding Variables

7.2 Use of Variables in common Rules

- 7.3 Understanding Expressions
- 7.4 Algebraic Expressions
- 7.5 Simplifying Algebraic Expressions
- 7.6 Division of Algebraic Expressions
- 7.7 Evaluating Algebraic Expressions
- 7.8 Factorisation by Grouping
- 7.9 Factorisation using Identities
- 7.10 Algebraic Fractions
- 7.11 Simplification of Algebraic Fractions
- 7.12 Exponents
- 7.13 Linear Equations in One Unknown
- 7.14 Word Problems - Linear Equations
- 7.15 Solving Quadratic Equations by Factorization
- 7.16 Linear Inequation in One Unknown
- 7.17 Changing the subject of a Formula
- 7.18 Simultaneous Linear Equations

8. Relations, Functions and Graphs

- 8.1 Cartesian System
- 8.2 Plotting Points in the Plane
- 8.3 Graphing a Linear Equation using Points
- 8.4 Relation
- 8.5 Function
- 8.6 Some Elementary Functions
- 8.7 Slope of a Line
- 8.8 Various Forms of the Equation of a Line
- 8.9 General Equation of a Line
- 8.10 Graphical method of solving pair of Linear Equation
- 8.11 Linear Inequalities in One Variable
- 8.12 Graphing Linear Inequalities in two Variables
- 8.13 Solving System of Linear Inequalities
- 8.14 Graphing of Feasible Region of a Linear Progr...
- 8.15 Graphical Methods for solving a Linear Progra...

- 8.16 Composition of two Functions
- 8.17 Inverse of a Function
- 8.18 Graphing A Quadratic Function
- 8.19 Maximum or Minimum Value of a Quadratic Function

9. Geometry I

- 9.1 Introduction
- 9.2 Types of Angles
- 9.3 Transversal and Angle Pairs
- 9.4 Parallel lines and Special Angle Pairs
- 9.5 Check for Parallel lines
- 9.6 Constructions
- 9.7 Triangles
- 9.8 Congruent Triangles
- 9.9 Similar Triangles
- 9.10 Pythagoras Theorem
- 9.11 Quadrilaterals
- 9.12 Construction of Quadrilaterals
- 9.13 Polygons
- 9.14 Area of Plane Figures
- 9.15 Circle and its Properties
- 9.16 Three Dimensional Shapes

10. Geometry: Symmetry and Transformation

- 10.1 Understanding Symmetry
- 10.2 Number of lines of Symmetry
- 10.3 Reflection and Symmetry
- 10.4 Rotational Symmetry
- 10.5 Reflection
- 10.6 Rotation

11. Geometry: Trigonometry

- 11.1 Trigonometric Ratios
- 11.2 Trigonometric Ratios of Specific Angles
- 11.3 Trigonometric Identities

11.4 Trigonometric Ratios of Complementary Angles

11.5 Heights and Distances

12. Geometry II

12.1 Angles Subtended by an arc of a Circle

12.2 Cyclic Quadrilaterals

12.3 Tangent to a Circle

12.4 Number of Tangents to a Circle

12.5 Intersecting Chords and Tangents

13. Vector and Matrices

13.1 The Position Vector

13.2 The Representations of a Position Vector

13.3 The Magnitude (Norm) of a Vector

13.4 Vectors with Magnitude and Inclination

13.5 Multiplication by a Scalar

13.6 Vectors with Initial Points not at the Origin

13.7 The Unit Vector

13.8 Introduction to Matrices

13.9 Types of Matrices

13.10 Addition of Matrices

13.11 Multiplication of a Matrix by a Scalar

13.12 Minors and Co-Factors

13.13 Properties of Determinants

13.14 Adjoint and Inverse of a Square Matrix

13.15 Matrix Multiplication

13.16 Applications of Determinants and Matrices