

New Syllabus Mathematics Textbook 1 (6th Edition)

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1. Factors and Multiples

- Factors and Multiples
- Prime Numbers and Composite Numbers
- Prime Factorisation
- Index Notation
- Highest Common Factor (HCF)
- Least Common Factor (LCM)
- Squares and Square Roots
- Cubes and Cube Roots
- Mental Estimation
- The Use of Calculators
- Summary
- Review Examples 1
- Review Questions 1

2. Integers

- Negative Numbers
- Integers
- The Number Line
- Absolute Value of an Integer
- Addition of Integers
- Subtraction of Integers
- Multiplication of Integers
- Division of Integers
- Rules for Operating on Integers
- Summary
- Review Examples 2
- Review Questions 2

3. Rational Numbers

- Rational Numbers
- Ordering of Rational Numbers
- Addition and Subtraction of Rational Numbers
- Multiplication and Division of Rational Numbers
- Arithmetical Operations on Rational Numbers
- Problem Solving Involving Rational Numbers
- Terminating and Recurring Decimals
- Use of Calculators on Real Numbers
- Summary
- Review Examples 3

- Review Questions 3

4. Estimation and Approximation

- Estimation and Rounding
- Approximations in Measurements and Accuracy
- Rounding Off a Number to a Given Number of Decimal Places
- Accuracy and Significant Figures
- Rounding Off a Number to a Given Number of Significant Figures
- Summary
- Review Examples 4
- Review Questions 4

5. Fundamental Algebra

- Notations in Algebra
- Evaluation of Algebraic Expressions
- Some Rules in Algebra
- Use of Brackets in Simplification
- Addition and Subtraction of Algebraic Expressions
- Linear Algebraic Expressions with Fractional Coefficients
- Factorisation
- Factorisation by Grouping
- Summary
- Review Examples 5
- Review Questions 5

Revision Exercise I

6. Number Sequences

- Number Sequences
- General Term in a Number Sequence
- Problem Solving
- Summary
- Review Examples 6
- Review Questions 6

7. Algebraic Equations and Simple Inequalities

- Open Sentences
- Simple Equations
- Solving Simple Equations
- Further Examples on Equations
- Formulae
- Construction of Formulae
- Writing Algebraic Expressions
- Problem Solving with Algebra

- Inequalities
- Properties of Inequalities
- Equations and Inequalities
- Summary
- Review Examples 7
- Review Questions 7

8. Perimeter and Area of Simple Geometrical Figures

- Units of Area
- Area of a Parallelogram
- Area of a Trapezium
- Summary
- Review Examples 8
- Review Questions 8

9. Volume and Surface Area

- Concept of Volume
- Volume of Fluids
- Right Prisms
- Volume of a Prism
- Cylinders
- Volume of a Cylinder
- Surface Area of a Cylinder
- Summary
- Review Examples 9
- Review Questions 9

Revision Exercise II

10. Ratio, Rate and Proportion

- Ratio
- Equivalent Ratios
- Increase and Decrease in Ratio
- Rate
- Average Rate
- Time
- Speed and Average Speed
- Problems Involving Speed and Average Speed
- Summary
- Review Examples 10
- Review Questions 10

11. Percentages

- Percentages, Fractions and Decimals

- Expressing One Quantity as a Percentage of Another
- Finding the Percentage of a Number
- Comparing Two Quantities by Percentages
- Percentages Greater than 100%
- Increasing/Decreasing a Quantity by a Given Percentage
- Discount
- Commission
- Value-added Tax and GST
- Summary
- Review Examples 11
- Review Questions 11

12. Functions and Graphs

- Rectangular Coordinates in Two Dimensions
- The Rectangular or Cartesian Plane
- Coordinates of a Point
- The Idea of Functions
- Ordered Pairs Satisfying a Function
- Gradient of a Straight Line
- Summary
- Review Examples 12
- Review Questions 12

13. Statistics

- Introduction to Numerical Data
- Collection, Organisation and Interpretation of Data
- Collection of Data Using a Questionnaire
- Pictograms
- Bar Graphs
- Collection of Data Through Observation
- Pie Charts
- Collection of Data Through Interviews
- Line Graphs
- Frequency Tables and Histograms
- Collection of Data by Using Electronic Means and the Internet
- Grouped Frequency Tables
- Summary
- Review Examples 13
- Review Questions 13

Revision Exercise III

14. Basic Geometrical Concepts and Properties

- Points
- Lines, Rays, Line Segments

- Planes
- Intersecting Lines
- Angles
- The Protractor and Angle Measure
- Different Kinds of Angles
- Complementary Angles
- Supplementary Angles
- Adjacent Angles on a Line
- Vertically Opposite Angles
- Parallel Lines, Alternate Angles, Corresponding Angles, Interior Angles
- Summary
- Review Examples 14
- Review Questions 14

15. Angle Properties of Polygons

- Polygons
- Triangles
- Angle properties of Triangles
- Exterior and Interior Opposite Angles
- Quadrilaterals
- Convex Polygons
- Sum of Interior Angles of a Convex Polygon
- Sum of Exterior Angles of a Convex Polygon
- Summary
- Review Examples 15
- Review Questions 15

16. Geometrical Constructions

- Geometrical Constructions
- Use of Compasses
- Bisecting an Angle
- Bisecting a Line Segment
- Summary
- Review Examples 16
- Review Questions 16

Revision Exercise IV

Answers