New Syllabus Mathematics Textbook 3

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1. Solutions to Quadratic Equations

- Solving Quadratic Equations by Factorisation
- Solution by Completing the Square
- General Solution to a Quadratic Equation
- Problems Involving Quadratic Equations
- Summary
- Review Examples 1
- Review Questions 1

2. Indices and Standard Form

- Multiplication Law of Indices
- Division Law of Indices
- Power Law of Indices
- More Laws of Indices
- Zero and Negative Indices
- Fractional Indices
- The Standard Form
- Common Prefixes Used in Everyday Life Situation
- Use of Calculator
- Summary
- Review Examples 2
- Review Questions 2

3. Linear Inequalities

- Inequalities
- Solving Inequalities
- Difference between < and ¡Ü
- Problem Solving Involving Inequalities
- Linear Inequalities in One Variable
- Summary
- Review Examples 3
- Review Questions 3

Revision Exercise I

4. Coordinate Geometry

- Revision
- Length of Line Segment
- Gradient of a Straight Line

- Equation of a Straight Line
- Summary
- Review Examples 4
- Review Questions 4

5. Matrices

- Introduction
- Some Special Matrices
- Addition and Subtraction of Matrices
- Rules for Matrix Addition and Matrix Subtraction
- Multiplication of a Matrix by a Real Number
- Multiplication of Matrices
- Use of Matrices in Solving Everyday Life Problems
- Summary
- Review Examples 5
- Review Questions 5

6. Application of Mathematics in Practical Situations

- Profit and Loss as a Percentage of Cost/Sale Price
- Further Examples on Percentages
- Simple Interest
- Compound Interest
- Hire Purchase
- Money Exchange
- Taxation
- Personal and Household Finances
- Interpretation and Use of Tables and Charts
- Strategies in Problem Solving
- Summary
- Review Examples 6
- Review Questions 6

7. Linear Graphs and Their Applications

- Applications of Graphs in Practical Situations
- Conversion Graphs
- Travel Graphs
- Drawing of Graphs
- Problem Solving Involving Linear Graphs
- Summary
- Review Examples 7
- Review Questions 7

Revision Exercise II

8. Congruent and Similar Triangles

- Congruent Triangles
- Congruency Tests
- Simple Applications of Congruent Triangles
- Similar Triangles
- Tests for Similarity between Two Triangles
- Summary
- Review Examples 8
- Review Questions 8

9. Area and Volume of Similar Figures and Solids

- Area of Similar Figures
- Volumes of Similar Figures
- Summary
- Review Examples 9
- Review Questions 9

10. Trigonometrical Ratios

- Trigonometrical Ratios
- Value of Trigonometrical Ratios
- Use of Calculator
- Solving Right-Angled Triangles Using Trigonometrical Ratios
- Finding the Value of an Angle with Trigonometrical Ratios
- Practical Applications of Trigonometry
- More Examples on Applications of Trigonometry
- Summary
- Review Examples 10
- Review Questions 10

Revision Exercise III

11. Further Trigonometry

- Trigonometrical Ratios
- Area of Triangle
- The Sine Rule
- The Cosine Rule
- Bearings
- Three-Dimensional Problems
- Further Examples of Three-Dimensional Problems
- Summary
- Review Examples 11
- Review Questions 11

12. Mensuration - Arc Length, Sector Area, Radian Measure

- Area and Circumference of a Circle (Revision)

- Length of Arc and Area of Sector
- The Radian (rad)
- Radian, Arc Length and Area of Sector
- Summary
- Review Examples 12
- Review Questions 12

13. Geometrical Properties of Circles

- Symmetrical Properties of Circles
- Angle of Properties of Circles
- Angles in Opposite Segments of a Circle
- Problems on Angle Properties of Circles
- Tangents
- Tangents from an External Point
- Summary
- Review Examples 13
- Review Questions 13

Revision Exercise IV

Answers