

S1**Chapter 0 Using Algebra to Solve Problems (I)**

Primary Arithmetics

Revision on 4 operations (+, -, \times , \div)

0.1 Types of Numbers

0.2 The Four Fundamental Arithmetic Operations

A. The Results of Operations

B. Brackets

0.3 Multiples and Factors

A. Multiples

B. Factors

C. Prime Numbers and Prime Factors

D. Index Notation

E. H.C.F. and L.C.M.

0.4 Fractions

A. Introduction

B. Simplifying Fractions

C. Operations with Fractions

Chapter 1 Directed Numbers

1.0 Pre-learning

1.1 The Concept and Applications of Directed Numbers

A. Applications of Directed Numbers

B. Arrangement of Directed Numbers on the Number Line

1.2 Addition and Subtraction of Directed Numbers

A. Addition of Directed Numbers on a Number Line

B. Subtraction of Directed Numbers on a Number Line

C. Addition and Subtraction of Directed Numbers by
Removing Brackets

1.3 Multiplication and Division of Directed Numbers

A. Multiplication of Directed Numbers

B. Division of Directed Numbers

Chapter 2 Using Algebra to Solve Problems (I)

2.1 Introduction to Algebra

A. Using Letters to Represent Numbers

B. Terms of Algebraic Expressions

C. Combining Like Terms

2.2 Algebraic Equations

A. Formulating Algebraic Equations

B. Properties of Equations

- C. Solving Simple Equations
- D. Solving More Complicated Equations

S2**Book 2A Chapter 2 Manipulations and Factorization of Polynomials**

- 2.0 Pre-Learning
- 2.1 Index Notation
- 2.2 Laws of Positive Integral Indices
- 2.3 Polynomials
- 2.4 Addition and Subtraction of Polynomials
- 2.5 Multiplication of Polynomials
- 2.6 Factorization of Polynomials

Book 2A Chapter 3 Identities

- 3.0 Pre-Learning
- 3.1 Meaning of Identities
- 3.2 The Difference of Two Squares Identity
- 3.3 The Perfect Square Identities

S3**Book 1A Chapter 3 -Percentages (I)**

- 3.0 Pre-learning
- 3.1 Simple Problems Involving Percentages
- 3.2 Percentage Change
- 3.3 Profit and Loss
- 3.4 Discount●

3.5 Simple Interest

Book 3A Chapter 2 – Law of Indices●

- 2.0 Pre-Learning●
- 2.1 Zero Index and Negative Integral Indices
- 2.2 Scientific Notation

Book 3A Chapter 1 – More about Factorization of Polynomials**1.1 Factorization Using Identities**

- A. Using the Difference of Two Squares Identity
- B. Using the Perfect Square Identities

1.2 Factorization Using the Cross-method

- A. Factorization of Polynomials in the Form of $x^2 + bx + c$

B. Factorization of Polynomials in the Form of $ax^2 + bx + c$

Book 3A

Chapter 4 – Linear Inequalities in One Unknown

4.1 Basic Knowledge of Inequalities

A. Solutions of Inequalities and Their Representations

B. Basic Properties of Inequalities

Book 1B

Chapter 12 – Introduction to Statistics

12.1 Different Stages of Statistics

12.2 Collection of Data and their Classifications●

A. Collection of Data

B. Classification of Data

12.3 Organization of Data●

12.4 Presentation and Analysis of Data

A. Pie Charts

B. Broken Line Graphs

C. Stem-and-leaf Diagrams

D. Scatter Diagrams