

Prealgebra 1 Syllabus

Session 1

Chapter 1 Number Theory

Week ①

- 1.1 The Addition, Subtraction, Multiplication, Division, and Number Laws – Part 1
 - 1.1.1 Order of Operations
 - 1.1.2 Expressions with Brackets
 - 1.1.3 The Commutative Law of Addition and Multiplication

Week ②

- 1.2 The Exponential Notation, Negative Number, and Number Laws – Part 2
 - 1.2.1 Exponential Notation
 - 1.2.2 Negative Numbers
 - 1.2.3 The Association Law of Addition and Multiplication
 - 1.2.4 The Distribution Law of Multiplication (with respect to Addition)

Week ③

- 1.3 Divisibility Rules and Prime Numbers
 - 1.3.1 Divisibility Tests
 - 1.3.2 Factors and Multiples
 - 1.3.3 Prime Numbers

Week ④

- 1.4 Prime Number and Prime Factorization
 - 1.4.1 More on Prime Numbers
 - 1.4.2 High Exponents
 - 1.4.3 Prime Factorization with Repeated Division and Factor Tree

Week ⑤

- 1.5 Prime Factorization and Greatest Common Factor (gcf)
 - 1.5.1 Using Prime Factorization and Long Division to Find gcf

(Week 4, last 30 minutes)

Review 1.1, 1.2, 1.3 and Quiz #1

Week ⑥

- 1.6 Least Common Multiple (lcm)
 - 1.6.1 Using Prime Factorization and Long Division to Find lcm

Week ⑦

- 1.7 Number Patterns
 - 1.7.1 Square Numbers and Cubic Numbers
 - 1.7.2 Number Patterns

(Week 7, last 60 minutes)

Review Chapter 1, and Quiz #2

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Chapter 2 Fractions and Decimals

Week ⑧

2.1 Fractions – Part 1

- 2.1.1 Simplest Form of a Fraction, Comparing Fractions, Improper Fractions and Mixed Numbers
- 2.1.2 Multiplication and Division of Fractions

Week ⑨

2.2 Fractions – Part 2

- 2.2.1 Additional and Subtraction of Fractions
- 2.2.2 Complex Fractions

Week ⑩

2.3 Decimals and Approximation

- 2.3.1 Arithmetic with Decimals
- 2.3.2 Rounding Off

Week ⑪

2.4 Relations between Fractions and Decimals

- 2.4.1 Convert Fractions to Decimals
- 2.4.2 Convert Decimals to Fractions
- 2.4.3 Convert Recurring Decimals to Fractions
- 2.4.4 Use Estimation to check answers

Week ⑫

Review Chapter 2

Quiz #3

Chapter 3 Arithmetic Problems

Week ⑬

3.1 Unit of Measure

- 3.1.1 Common Units
- 3.1.2 Conversion of Units

3.2 Simple Word Problems

- 3.2.1 Steps to Solve Word Problems

Week ⑭ Review and Final Exam

Week ⑮

3.3 More Complicated Word Problems

- 3.3.1 Multi-Step Word Problems
- 3.3.2 Estimation in Real World Situations

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Session 2

Chapter 4 Real Numbers

Week ①

4.1 Negative Numbers

- 4.1.1 Order of Integers and Number Line
- 4.1.2 Additional and Subtraction with Negative Numbers
- 4.1.3 Multiplication and Division with Negative Numbers

Week ②

4.2 Real Numbers

- 4.2.1 Squares, Square Roots, Cubes, and Cube Roots
- 4.2.2 Rational and Irrational Numbers
- 4.2.3 Operations with Real Numbers
- 4.2.4 Mental Calculation Tips

Chapter 5 Introduction to Algebraic Expressions

Week ③

5.1 Algebraic Expressions

- 5.1.1 Algebra Expressions
- 5.1.2 Evaluating Algebra Expressions
- 5.1.3 Equivalent Expressions

Week ④

5.2 Operations with Algebraic Expressions

- 5.2.1 Algebraic Terminology
- 5.2.2 Applying Distribution Law on Algebraic Expressions
- 5.2.3 Collecting Like Terms

Week ⑤

Review Chapter 3 & 4

Quiz #1

Chapter 6 Solving Equations

Week ⑥

6.1 Equations

- 6.1.1 Equivalent Equations
- 6.1.2 Equations with Fractional and Decimal Coefficients

Week ⑦

6.2 Algebraic Problems

- 6.2.1 Evaluation of Formula
- 6.2.2 Solving Word Problems Using Equation

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Week ⑧

Review Chapter 4, 5, 6
Quiz #2

Chapter 7 Ratio, Proportion and Percentage

Week ⑨

7.1 Ratio

- 7.1.1 Rate and Speed
- 7.1.2 Ratio and Its Applications

Week ⑩

7.2 Proportion

- 7.2.1 Proportion
- 7.2.2 Applications of Proportions

Week ⑪

7.3 Percentage

- 7.3.1 Percentage
- 7.3.2 Applications of Percentage

Week ⑫

Review Chapter 4,5,6,7
Quiz #3

Chapter 8 Exponents and Square Roots

Week ⑬

8.1 Higher Exponents

- 8.1.1 Squares and Cubes
- 8.1.2 Zero and Negative Exponents

Week ⑭ Final Exam

Week ⑮

8.2 Square Roots

- 8.2.1 From Squares to Square Roots
- 8.2.2 Arithmetic with Square Roots