



Prealgebra Detailed Topics List with Suggested Homework and Assessments

CHAPTER 1 – WHOLE NUMBERS

Section 1.1 – Introduction to Whole Numbers

Topics:

- A. Identify counting numbers and whole numbers
- B. Identify the place value of a digit
- C. Use place value to name whole numbers
- D. Use place value to write whole numbers
- E. Round whole numbers

Suggested Homework Exercises: 1 – 49 odd

Section 1.2 – Add Whole Numbers

Topics:

- A. Use addition notation
- B. Add whole numbers without models
- C. Translate word phrases to math notation
- D. Add whole numbers in applications

Suggested Homework Exercises: 59 – 133 odd

Section 1.3 – Subtract Whole Numbers

Topics:

- A. Use subtraction notation
- B. Subtract whole numbers
- C. Translate word phrases to math notation
- D. Subtract whole numbers in applications

Suggested Homework Exercises: 141 – 219 odd

Section 1.4 – Multiply Whole Numbers

Topics:

- A. Use multiplication notation
- B. Multiply whole numbers
- C. Translate word phrases to math notation
- D. Multiply whole numbers in applications

Suggested Homework Exercises: 225 – 337 odd





Section 1.5 – Divide Whole Numbers

Topics:

- A. Use division notation
- B. Divide whole numbers
- C. Translate word phrases to math notation
- D. Divide whole numbers in applications

Suggested Homework Exercises: 343 – 439 odd

SUGGESTED ASSESSMENT: Chapter 1 Practice Test

*Note: Practice Test Answer Keys are posted on the video library homepage

CHAPTER 2 – THE LANGUAGE OF ALGEBRA

Section 2.1 – Use the Language of Algebra

Topics:

- A. Use variables and algebraic symbols
- B. Identify expressions and equations
- C. Simplify expressions with exponents
- D. Simplify expressions using order of operations

Suggested Homework Exercises: 1 – 63 odd

Section 2.2 – Evaluate, Simplify, and Translate Expressions

Topics:

- A. Evaluate algebraic expressions
- B. Identify terms, coefficients, and like terms
- C. Simplify expressions by combining like terms
- D. Translate word phrases to algebraic expressions

Suggested Homework Exercises: 69 – 141 odd

Section 2.3 – Solving Equations Using the Subtraction and Addition Properties of Equality

Topics:

- A. Determine whether a number is a solution of an equation
- B. Solve equations using the Addition and Subtraction Properties of Equality
- C. Translate word phrases to algebraic equations
- D. Translate to an equation and solve

Suggested Homework Exercises: 147 – 207 odd

Section 2.4 – Find Multiples and Factors

Topics:

- A. Identify multiples of numbers
- B. Use common divisibility tests
- C. Find all of the factors of a number
- D. Identify prime and composite numbers

Suggested Homework Exercises: 215 – 261 odd





Section 2.5 – Prime Factorization and the Least Common Multiple (LCM)

Topics:

- A. Find the prime factorization of a composite number
- B. Find the least common multiple (LCM) of two numbers

Suggested Homework Exercises: 267 – 311 odd

SUGGESTED ASSESSMENT: Chapter 2 Practice Test

*Note: Practice Test Answer Keys are posted on the video library homepage

CHAPTER 3 – INTEGERS

Section 3.1 – Introduction to Integers

Topics:

- A. Locate positive and negative numbers on a number line
- B. Order positive and negative numbers
- C. Find opposites
- D. Simplify expressions with absolute value
- E. Translate word phrases to expressions with integers

Suggested Homework Exercises: 1 – 55 odd

Section 3.2 – Add Integers

Topics:

- A. Model addition of integers
- B. Simplify expressions with integers
- C. Evaluate variable expressions with integers
- D. Translate word phrases to algebraic expressions
- E. Add integers in applications

Suggested Homework Exercises: 63 – 121 odd

Section 3.3 – Subtract Integers

Topics:

- A. Model subtraction of integers
- B. Simplify expressions with integers
- C. Evaluate variable expressions with integers
- D. Translate word phrases to algebraic expressions
- E. Subtract integers in applications

Suggested Homework Exercises: 127 – 205 odd





Section 3.4 – Multiply and Divide Integers

Topics:

- A. Multiply integers
- B. Divide integers
- C. Simplify expressions with integers
- D. Evaluate variable expressions with integers
- E. Translate word phrases to algebraic expressions

Suggested Homework Exercises: 211 – 277 odd

Section 3.5 – Solve Equations Using Integers; The Division Property of Equality

Topics:

- A. Determine whether an integer is a solution of an equation
- B. Solve equations with integers using the Addition and Subtraction Properties of Equality
- C. Solve equations using the Division Property of Equality
- D. Translate to an equation and solve

Suggested Homework Exercises: 285 – 345 odd

SUGGESTED ASSESSMENT: Chapter 3 Practice Test

*Note: Practice Test Answer Keys are posted on the video library homepage

CHAPTER 4 – FRACTIONS

Section 4.1 – Visualize Fractions

Topics:

- A. Understand the meaning of fractions
- B. Convert between improper fractions and mixed numbers
- C. Find equivalent fractions
- D. Locate fractions and mixed numbers on the number line
- E. Order fractions and mixed numbers

Suggested Homework Exercises: 1 – 71 odd

Section 4.2 – Multiply and Divide Fractions

Topics:

- A. Simplify fractions
- B. Multiply fractions
- C. Find reciprocals
- D. Divide fractions

Suggested Homework Exercises: 77 – 167 odd





Section 4.3 – Multiply and Divide Mixed Numbers and Complex Fractions

Topics:

- A. Multiply and divide mixed numbers
- B. Translate phrases to expressions with fractions
- C. Simplify complex fractions
- D. Simplify expressions written with a fraction bar

Suggested Homework Exercises: 177 – 247 odd

Section 4.4 – Add and Subtract Fractions with Common Denominators

Topics:

- A. Add fractions with a common denominator
- B. Subtract fractions with a common denominator
- C. Mixed Practice

Suggested Homework Exercises: 255 – 311 odd

Section 4.5 – Add and Subtract Fractions with Different Denominators (Part 1)

Topics:

- A. Find the least common denominator (LCD)
- B. Convert fractions to equivalent fractions with the LCD
- C. Add and subtract fractions with different denominators

Suggested Homework Exercises: 317 – 369 odd

Section 4.5 – Add and Subtract Fractions with Different Denominators (Part 2)

Topics:

- D. Identify and use fraction operations
- E. Use the order of operations to simplify complex fractions
- F. Evaluate variable expressions with fractions

Suggested Homework Exercises: 371 – 431 odd

Section 4.6 – Add and Subtract Mixed Numbers

Topics:

- A. Add and subtract mixed numbers with a common denominator
- B. Add and subtract mixed numbers with different denominators

Suggested Homework Exercises: 437 – 489 odd





Section 4.7 – Solve Equations with Fractions

Topics:

- A. Determine whether a fraction is a solution of an equation
- B. Solve equations with fractions using the Addition and Subtraction Properties of Equality
- C. Solve equations with fractions using the Division and Multiplication Properties of Equality
- D. Translate sentences to equations and solve

Suggested Homework Exercises: 499 – 569 odd

SUGGESTED ASSESSMENT: Chapter 4 Practice Test

*Note: Practice Test Answer Keys are posted on the video library homepage

CHAPTER 5 – DECIMALS

Section 5.1 – Decimals

Topics:

- A. Name Decimals
- B. Write decimals
- C. Convert decimals to fractions or mixed numbers
- D. Locate decimals on the number line
- E. Order decimals
- F. Round decimals

Suggested Homework Exercises: 1 – 85 odd

Section 5.2 – Decimal Operations

Topics:

- A. Add and subtract decimals
- B. Multiply decimals
- C. Divide decimals
- D. Use decimals in money applications

Suggested Homework Exercises: 95 – 195 odd

Section 5.3 – Decimals and Fractions

Topics:

- A. Convert fractions to decimals
- B. Order decimals and fractions
- C. Simplify expressions using the order of operations
- D. Find the circumference and area of circles

Suggested Homework Exercises: 201 – 279 odd





Section 5.4 – Solve Equations with Decimals

Topics:

- A. Determine whether a decimal is a solution of an equation
- B. Solve equations with decimals
- C. Translate to an equation and solve

Suggested Homework Exercises: 285 – 351 odd

Section 5.5 – Averages and Probability

Topics:

- A. Calculate the mean of a set of numbers
- B. Find the median of a set of numbers
- C. Find the mode of a set of numbers
- D. Apply the basic definition of probability

Suggested Homework Exercises: 357 – 397 odd

Section 5.6 – Ratios and Rate

Topics:

- A. Write a ratio as a fraction
- B. Write a rate as a fraction
- C. Find unit rates
- D. Find unit price
- E. Translate phrases to expressions with fractions

Suggested Homework Exercises: 403 – 479 odd

Section 5.7 – Simplify and Use Square Roots

Topics:

- A. Simplify expressions with square roots
- B. Estimate square roots
- C. Approximate square roots
- D. Simplify variable expressions with square roots
- E. Use square roots in applications

Suggested Homework Exercises: 489 – 529 odd

SUGGESTED ASSESSMENT: Chapter 5 Practice Test

*Note: Practice Test Answer Keys are posted on the video library homepage

CHAPTER 6 – PERCENTS

Section 6.1 – Understand Percent

Topics:

- A. Use the definition of percent
- B. Convert percents to fractions and decimals
- C. Convert decimals and fractions to percents

Suggested Homework Exercises: 1 – 85 odd



**Section 6.2 – Solve General Applications of Percent**

Topics:

- A. Translate and solve basic percent equations
- B. Solve applications of percent
- C. Find percent increase and percent decrease

Suggested Homework Exercises: 97 – 143 odd**Section 6.3 – Solve Sales Tax, Commission, and Discount Applications**

Topics:

- A. Solve sales tax applications
- B. Solve commission applications
- C. Solve discount applications
- D. Solve mark-up applications

Suggested Homework Exercises: 151 – 195 odd**Section 6.4 – Solve Simple Interest Applications**

Topics:

- A. Use the simple interest formula
- B. Solve simple interest applications

Suggested Homework Exercises: 201 – 237 odd**Section 6.5 – Solve Proportions and Their Applications**

Topics:

- A. Use the definition of proportions
- B. Solve proportions
- C. Solve applications using proportions
- D. Write percent equations as proportions
- E. Translate and solve percent proportions

Suggested Homework Exercises: 243 – 325 odd**SUGGESTED ASSESSMENT: Chapter 6 Practice Test**

*Note: Practice Test Answer Keys are posted on the video library homepage

CHAPTER 7 – THE PROPERTIES OF REAL NUMBERS**Section 7.1 – Rational and Irrational Numbers**

Topics:

- A. Identify rational numbers and irrational numbers
- B. Classify different types of real numbers

Suggested Homework Exercises: 1 – 15 odd



Section 7.2 – Commutative and Associative Properties

Topics:

- A. Use the commutative and associative properties
- B. Evaluate expressions using the commutative and associative properties
- C. Simplify expressions using the commutative and associative properties

Suggested Homework Exercises: 21 – 85 odd

Section 7.3 – Distributive Property

Topics:

- A. Simplify expressions using the distributive property
- B. Evaluate expressions using the distributive property

Suggested Homework Exercises: 91 – 153 odd

Section 7.4 – Properties of Identity, Inverses, and Zero

Topics:

- A. Recognize the identity properties of addition and multiplication
- B. Use the inverse properties of addition and multiplication
- C. Use the properties of zero
- D. Simplify expressions using the properties of identities, inverses, and zero

Suggested Homework Exercises: 159 – 209 odd

Section 7.5 - Systems of Measurement

Topics:

- A. Perform unit conversions in the U.S. system
- B. Perform unit conversions in the metric system
- C. Convert between the U.S. and the metric system of measurement
- D. Convert between Fahrenheit and Celsius temperatures

Suggested Homework Exercises: 215 – 297 odd

SUGGESTED ASSESSMENT: Chapter 7 Practice Test

*Note: Practice Test Answer Keys are posted on the video library homepage

CHAPTER 8 – SOLVING LINEAR EQUATIONS

Section 8.1 – Solve Equations Using the Subtraction and Addition Properties of Equality

Topics:

- A. Solve equations using the Subtraction and Addition Properties of Equality
- B. Solve equations that need to be simplified
- C. Translate to an equation and solve
- D. Translate and solve applications

Suggested Homework Exercises: 1 – 63 odd





Section 8.2 – Solve Equations Using the Division and Multiplication Properties of Equality

Topics:

- A. Solve equations using the Division and Multiplication Properties of Equality
- B. Solve equations that need to be simplified

Suggested Homework Exercises: 69 – 103 odd

Section 8.3 – Solve Equations with Variables and Constants on Both Sides

Topics:

- A. Solve an equation with constants on both sides
- B. Solve an equation with variables on both sides
- C. Solve an equation with variables and constants on both sides
- D. Solve equations using a general strategy

Suggested Homework Exercises: 113 – 197 odd

Section 8.4 – Solve Equations with Fraction or Decimal Coefficients

Topics:

- A. Solve equations with fraction coefficients
- B. Solve equations with decimal coefficients

Suggested Homework Exercises: 209 – 247 odd

SUGGESTED ASSESSMENT: Chapter 8 Practice Test

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CHAPTER 9 – MATH MODELS AND GEOMETRY

Section 9.1 – Use a Problem Solving Strategy

Topics:

- A. Use a problem solving strategy for word problems
- B. Solve number problems

Suggested Homework Exercises: 1 – 41 odd

Section 9.2 – Solve Money Applications

Topics:

- A. Solve coin word problems
- B. Solve ticket and stamp word problems

Suggested Homework Exercises: 51 – 73 odd

Section 9.3 – Use Properties of Angles, Triangles, and the Pythagorean Theorem

Topics:

- A. Use the properties of angles
- B. Use the properties of triangles
- C. Use the Pythagorean Theorem

Suggested Homework Exercises: 81 – 123 odd





Section 9.4 – Use Properties of Rectangles, Triangles, and Trapezoids (Part 1)

Topics:

A. Understand linear, square, and cubic measure

B. Use properties of rectangles

Suggested Homework Exercises: 129 – 167 odd

Section 9.4 – Use Properties of Rectangles, Triangles, and Trapezoids (Part 2)

Topics:

C. Use properties of triangles

D. Use properties of trapezoids

Suggested Homework Exercises: 169 – 207 odd

