



PREALGEBRA

COURSE OUTLINE

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This course is designed to be flexible. Your student may start at any time and work at whatever pace is comfortable for them. **Please use this document in combination with the Course Calendar for planning purposes.** The calendar can be adjusted to make the course slower or faster, as desired by you and your student. There are four main elements to this course:

Step 1

Students watch the video lesson for that day and take notes as they would if they were in class.

Step 2

Students do the suggested homework exercises listed on each lesson page (and listed in detail in this document). The homework is done out of the free online OpenStax Prealgebra textbook (www.openstax.org). Students can check their answers on the homework problems in the answer key of the OpenStax book and if they have questions they can reference the homework support videos posted on the lesson page.

Step 3

At the end of the chapter, students study for the test by doing the assigned review exercises out of the OpenStax book. They may check their answers in the answer key of the book.

Step 4

When students are ready, they do the assigned exercises on the Practice Test provided in the OpenStax book. Students, or parents, can then grade the test using the “Practice Test Answer Keys” posted on the Courses Homepage.

The rest of this document lists the course topics, homework exercises, review exercises, and test exercises in detail.

Please watch the “Orientation Video for Homeschool Parents” on the Courses Homepage to become oriented in more detail with how this course works as well as the various features of the website.





COURSE OVERVIEW

Chapter 1 – Whole Numbers

- 1.1 Introduction to Whole Numbers
- 1.2 Add Whole Numbers
- 1.3 Subtract Whole Numbers
- 1.4 Multiply Whole Numbers
- 1.5 Divide Whole Numbers

Chapter 2 – The Language of Algebra

- 2.1 Use the Language of Algebra
- 2.2 Evaluate, Simplify, and Translate Expressions
- 2.3 Solving Equations Using the Subtraction and Addition Properties of Equality
- 2.4 Find Multiples and Factors
- 2.5 Prime Factorization and the Least Common Multiple (LCM)

Chapter 3 – Integers

- 3.1 Introduction to Integers
- 3.2 Add Integers
- 3.3 Subtract Integers
- 3.4 Multiply and Divide Integers
- 3.5 Solve Equations Using Integers; The Division Property of Equality

Chapter 4 – Fractions

- 4.1 Visualize Fractions
- 4.2 Multiply and Divide Fractions
- 4.3 Multiply and Divide Mixed Numbers and Complex Fractions
- 4.4 Add and Subtract Fractions with Common Denominators
- 4.5 Add and Subtract Fractions with Different Denominators
- 4.6 Add and Subtract Mixed Numbers
- 4.7 Solve Equations with Fractions

Chapter 5 – Decimals

- 5.1 Decimals
- 5.2 Decimal Operations
- 5.3 Decimals and Fractions
- 5.4 Solve Equations with Decimals
- 5.5 Averages and Probability
- 5.6 Ratios and Rate
- 5.7 Simplify and Use Square Roots



**Chapter 6 – Percents**

- 6.1 Understand Percent
- 6.2 Solve General Applications of Percent
- 6.3 Solve Sales Tax, Commission, and Discount Applications
- 6.4 Solve Simple Interest Applications
- 6.5 Solve Proportions and Their Applications

Chapter 7 – The Properties of Real Numbers

- 7.1 Rational and Irrational Numbers
- 7.2 Commutative and Associative Properties
- 7.3 Distributive Property
- 7.4 Properties of Identity, Inverses, and Zero
- 7.5 Systems of Measurement

Chapter 8 – Solving Linear Equations

- 8.1 Solve Equations Using the Subtraction and Addition Properties of Equality
- 8.2 Solve Equations Using the Division and Multiplication Properties of Equality
- 8.3 Solve Equations with Variables and Constants on Both Sides
- 8.4 Solve Equations with Fraction or Decimal Coefficients

Chapter 9 – Math Models and Geometry

- 9.1 Use a Problem Solving Strategy
- 9.2 Solve Money Applications
- 9.3 Use Properties of Angles, Triangles, and the Pythagorean Theorem
- 9.4 Use Properties of Rectangles, Triangles, and Trapezoids
- 9.5 Solve Geometry Applications: Circles and Irregular Figures
- 9.6 Solve Geometry Applications: Volume and Surface Area
- 9.7 Solve a Formula for a Specific Variable

Chapter 10 – Polynomials

- 10.1 Add and Subtract Polynomials
- 10.2 Use Multiplication Properties of Exponents
- 10.3 Multiply Polynomials
- 10.4 Divide Monomials
- 10.5 Integer Exponents and Scientific Notation
- 10.6 Introduction to Factoring Polynomials

Chapter 11 – Graphs

- 11.1 Use the Rectangular Coordinate System
- 11.2 Graphing Linear Equations
- 11.3 Graphing with Intercepts
- 11.4 Understand Slope of a Line





CHAPTER 1 – WHOLE NUMBERS

1.1 Introduction to Whole Numbers

Topics:

- A. Identify counting numbers and whole numbers (1 – 7 odd)
- B. Identify the place value of a digit (9 – 11 odd)
- C. Use place value to name whole numbers (13 – 29 odd)
- D. Use place value to write whole numbers (31 – 41 odd)
- E. Round whole numbers (43 – 49 odd)

Suggested Homework Exercises: 1 – 49 odd

1.2 Add Whole Numbers

Topics:

- A. Use addition notation (59 – 63 odd)
- B. Add whole numbers without models (65 – 105 odd)
- C. Translate word phrases to math notation (107 – 117 odd)
- D. Add whole numbers in applications (119 – 133 odd)

Suggested Homework Exercises: 59 – 133 odd

1.3 Subtract Whole Numbers

Topics:

- A. Use subtraction notation (141 – 145 odd)
- B. Subtract whole numbers (147 – 181 odd)
- C. Translate word phrases to math notation (183 – 211 odd)
- D. Subtract whole numbers in applications (213 – 219 odd)

Suggested Homework Exercises: 141 – 219 odd

1.4 Multiply Whole Numbers

Topics:

- A. Use multiplication notation (225 – 235 odd)
- B. Multiply whole numbers (237 – 287 odd)
- C. Translate word phrases to math notation (289 – 321 odd)
- D. Multiply whole numbers in applications (323 – 337 odd)

Suggested Homework Exercises: 225 – 337 odd

1.5 Divide Whole Numbers

Topics:

- A. Use division notation (343 – 357 odd)
- B. Divide whole numbers (359 – 421 odd)
- C. Translate word phrases to math notation (423 – 433 odd)
- D. Divide whole numbers in applications (435 – 439 odd)

Suggested Homework Exercises: 343 – 439 odd



**SUGGESTED REVIEW: Chapter 1 Review Exercises**

Day One of review do review exercises: 453 – 525 odd

Day Two of review do review exercises: 527 – 577 odd

SUGGESTED ASSESSMENT: Chapter 1 Practice Test

Suggested Test: Do all exercises 579 – 613 on the Chapter 1 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

CHAPTER 2 – THE LANGUAGE OF ALGEBRA

2.1 Use the Language of Algebra

Topics:

- A. Use variables and algebraic symbols (1 – 21 odd)
- B. Identify expressions and equations (23 – 29 odd)
- C. Simplify expressions with exponents (31 – 37 odd)
- D. Simplify expressions using order of operations (39 – 63 odd)

Suggested Homework Exercises: 1 – 63 odd

2.2 Evaluate, Simplify, and Translate Expressions

Topics:

- A. Evaluate algebraic expressions (69 – 87 odd)
- B. Identify terms, coefficients, and like terms (89 – 99 odd)
- C. Simplify expressions by combining like terms (101 – 115 odd)
- D. Translate word phrases to algebraic expressions (117 – 141 odd)

Suggested Homework Exercises: 69 – 141 odd

2.3 Solving Equations Using the Subtraction and Addition Properties of Equality

Topics:

- A. Determine whether a number is a solution of an equation (147 – 161 odd)
- B. Solve equations using the Addition and Subtraction Properties of Equality (163 – 185 odd)
- C. Translate word phrases to algebraic equations (187 – 197 odd)
- D. Translate to an equation and solve (199 – 207 odd)

Suggested Homework Exercises: 147 – 207 odd

2.4 Find Multiples and Factors

Topics:

- A. Identify multiples of numbers (215 – 223 odd)
- B. Use common divisibility tests (225 – 241 odd)
- C. Find all of the factors of a number (243 – 249 odd)
- D. Identify prime and composite numbers (251 – 261 odd)

Suggested Homework Exercises: 215 – 261 odd





2.5 Prime Factorization and the Least Common Multiple (LCM)

Topics:

- A. Find the prime factorization of a composite number (267 – 293 odd)
- B. Find the least common multiple (LCM) of two numbers (295 – 311 odd)

Suggested Homework Exercises: 267 – 311 odd

SUGGESTED REVIEW: Chapter 2 Review Exercises

Day One of review do review exercises: 317 – 389 odd

Day Two of review do review exercises: 391 – 431 odd

SUGGESTED ASSESSMENT: Chapter 2 Practice Test

Suggested Test: Do all exercises 434 – 462 on the Chapter 2 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

CHAPTER 3 – INTEGERS

3.1 Introduction to Integers

Topics:

- A. Locate positive and negative numbers on a number line (1 – 3 odd)
- B. Order positive and negative numbers (5 – 7 odd)
- C. Find opposites (9 -19 odd)
- D. Simplify expressions with absolute value (21 – 41 odd)
- E. Translate word phrases to expressions with integers (43 – 55 odd)

Suggested Homework Exercises: 1 – 55 odd

3.2 Add Integers

Topics:

- A. Model addition of integers (63 – 69 odd)
- B. Simplify expressions with integers (71 – 85 odd)
- C. Evaluate variable expressions with integers (87 – 101 odd)
- D. Translate word phrases to algebraic expressions (103 – 111 odd)
- E. Add integers in applications (113 – 121 odd)

Suggested Homework Exercises: 63 – 121 odd

3.3 Subtract Integers

Topics:

- A. Model subtraction of integers (127 – 133 odd)
- B. Simplify expressions with integers (135 – 177 odd)
- C. Evaluate variable expressions with integers (179 – 185 odd)
- D. Translate word phrases to algebraic expressions (187 – 193 odd)
- E. Subtract integers in applications (195 – 205 odd)

Suggested Homework Exercises: 127 – 205 odd





3.4 Multiply and Divide Integers

Topics:

- A. Multiply integers (211 – 221 odd)
- B. Divide integers (223 – 231 odd)
- C. Simplify expressions with integers (233 – 257 odd)
- D. Evaluate variable expressions with integers (259 – 269 odd)
- E. Translate word phrases to algebraic expressions (271 – 277 odd)

Suggested Homework Exercises: 211 – 277 odd

3.5 Solve Equations Using Integers; The Division Property of Equality

Topics:

- A. Determine whether an integer is a solution of an equation (285 – 287 odd)
- B. Solve equations with integers using the Addition and Subtraction Properties of Equality (289 – 303 odd)
- C. Solve equations using the Division Property of Equality (305 – 315 odd)
- D. Translate to an equation and solve (317 – 345 odd)

Suggested Homework Exercises: 285 – 345 odd

SUGGESTED REVIEW: Chapter 3 Review Exercises

Day One of review do review exercises: 353 – 433 odd

Day Two of review do review exercises: 435 – 481 odd

SUGGESTED ASSESSMENT: Chapter 3 Practice Test

Suggested Test: Do all exercises 484 – 513 on the Chapter 3 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

CHAPTER 4 – FRACTIONS

4.1 Visualize Fractions

Topics:

- A. Understand the meaning of fractions (1 – 27 odd)
- B. Convert between improper fractions and mixed numbers (29 – 43 odd)
- C. Find equivalent fractions (45 – 55 odd)
- D. Locate fractions and mixed numbers on the number line (57 – 63 odd)
- E. Order fractions and mixed numbers (65 – 71 odd)

Suggested Homework Exercises: 1 – 71 odd

4.2 Multiply and Divide Fractions

Topics:

- A. Simplify fractions (77 – 93 odd)
- B. Multiply fractions (95 – 125 odd)
- C. Find reciprocals (127 – 137 odd)
- D. Divide fractions (139 – 167 odd)

Suggested Homework Exercises: 77 – 167 odd





4.3 Multiply and Divide Mixed Numbers and Complex Fractions

Topics:

- A. Multiply and divide mixed numbers (177 – 191 odd)
- B. Translate phrases to expressions with fractions (193 – 197 odd)
- C. Simplify complex fractions (199 – 213 odd)
- D. Simplify expressions written with a fraction bar (215 – 247 odd)

Suggested Homework Exercises: 177 – 247 odd

4.4 Add and Subtract Fractions with Common Denominators

Topics:

- A. Add fractions with a common denominator (255 – 277 odd)
- B. Subtract fractions with a common denominator (279 – 303 odd)
- C. Mixed Practice (305 – 311 odd)

Suggested Homework Exercises: 255 – 311 odd

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

Topics:

- A. Find the least common denominator (LCD) (317 – 325 odd)
- B. Convert fractions to equivalent fractions with the LCD (327 – 333 odd)
- C. Add and subtract fractions with different denominators (335 – 369 odd)

Suggested Homework Exercises: 317 – 369 odd

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

Topics:

- D. Identify and use fraction operations (371 – 389 odd)
- E. Use the order of operations to simplify complex fractions (391 – 401 odd)
- F. Evaluate variable expressions with fractions (403 – 431 odd)

Suggested Homework Exercises: 371 – 431 odd

4.6 Add and Subtract Mixed Numbers

Topics:

- A. Add and subtract mixed numbers with a common denominator (437 – 457 odd)
- B. Add and subtract mixed numbers with different denominators (459 – 489 odd)

Suggested Homework Exercises: 437 – 489 odd

4.7 Solve Equations with Fractions

Topics:

- A. Determine whether a fraction is a solution of an equation (499 – 501 odd)
- B. Solve equations with fractions using the Addition and Subtraction Properties of Equality (503 – 513 odd)
- C. Solve equations with fractions using the Division and Multiplication Properties of Equality (515 – 549 odd)
- D. Translate sentences to equations and solve (551 – 569 odd)

Suggested Homework Exercises: 499 – 569 odd



**SUGGESTED REVIEW: Chapter 4 Review Exercises**

Day One of review do review exercises: 575 – 631 odd

Day Two of review do review exercises: 633 – 671 odd

SUGGESTED ASSESSMENT: Chapter 4 Practice Test

Suggested Test: Do all exercises 672 – 704 on the Chapter 4 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

CHAPTER 5 – DECIMALS

5.1 Decimals

Topics:

A. Name Decimals (1 – 11 odd)

B. Write decimals (13 – 25 odd)

C. Convert decimals to fractions or mixed numbers (27 – 49 odd)

D. Locate decimals on the number line (51 – 57 odd)

E. Order decimals (59 – 69 odd)

F. Round decimals (71 – 85 odd)

Suggested Homework Exercises: 1 – 85 odd

5.2 Decimal Operations

Topics:

A. Add and subtract decimals (95 – 121 odd)

B. Multiply decimals (123 – 141 odd)

C. Divide decimals (143 – 175 odd)

D. Use decimals in money applications (177 – 195 odd)

Suggested Homework Exercises: 95 – 195 odd

5.3 Decimals and Fractions

Topics:

A. Convert fractions to decimals (201 – 221 odd)

B. Order decimals and fractions (223 – 241 odd)

C. Simplify expressions using the order of operations (243 – 265 odd)

D. Find the circumference and area of circles (267 – 279 odd)

Suggested Homework Exercises: 201 – 279 odd

5.4 Solve Equations with Decimals

Topics:

A. Determine whether a decimal is a solution of an equation (285 – 287 odd)

B. Solve equations with decimals (289 – 323 odd)

C. Translate to an equation and solve (325 – 351 odd)

Suggested Homework Exercises: 285 – 351 odd





5.5 Averages and Probability

Topics:

- A. Calculate the mean of a set of numbers (357 – 369 odd)
- B. Find the median of a set of numbers (371 – 381 odd)
- C. Find the mode of a set of numbers (383 – 389 odd)
- D. Apply the basic definition of probability (391 – 397 odd)

Suggested Homework Exercises: 357 – 397 odd

5.6 Ratios and Rate

Topics:

- A. Write a ratio as a fraction (403 – 429 odd)
- B. Write a rate as a fraction (431 – 437 odd)
- C. Find unit rates (439 – 453 odd)
- D. Find unit price (455 – 471 odd)
- E. Translate phrases to expressions with fractions (473 – 479 odd)

Suggested Homework Exercises: 403 – 479 odd

5.7 Simplify and Use Square Roots

Topics:

- A. Simplify expressions with square roots (489 – 503 odd)
- B. Estimate square roots (505 – 507 odd)
- C. Approximate square roots (509 – 511 odd)
- D. Simplify variable expressions with square roots (513 – 519 odd)
- E. Use square roots in applications (521 – 529 odd)

Suggested Homework Exercises: 489 – 529 odd

SUGGESTED REVIEW: Chapter 5 Review Exercises

Day One of review do review exercises: 535 – 601 odd

Day Two of review do review exercises: 603 – 683 odd

SUGGESTED ASSESSMENT: Chapter 5 Practice Test

Suggested Test: Do all exercises 684 – 713 on the Chapter 5 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

CHAPTER 6 – PERCENTS

6.1 Understand Percent

Topics:

- A. Use the definition of percent (1 – 7 odd)
- B. Convert percents to fractions and decimals (9 – 47 odd)
- C. Convert decimals and fractions to percents (49 – 85 odd)

Suggested Homework Exercises: 1 – 85 odd





6.2 Solve General Applications of Percent

Topics:

- A. Translate and solve basic percent equations (97 – 119 odd)
- B. Solve applications of percent (121 – 131 odd)
- C. Find percent increase and percent decrease (133 – 143 odd)

Suggested Homework Exercises: 97 – 143 odd

6.3 Solve Sales Tax, Commission, and Discount Applications

Topics:

- A. Solve sales tax applications (151 – 161 odd)
- B. Solve commission applications (163 – 173 odd)
- C. Solve discount applications (175 – 189 odd)
- D. Solve mark-up applications (191 – 195 odd)

Suggested Homework Exercises: 151 – 195 odd

6.4 Solve Simple Interest Applications

Topics:

- A. Use the simple interest formula (201 – 221 odd)
- B. Solve simple interest applications (223 – 237 odd)

Suggested Homework Exercises: 201 – 237 odd

6.5 Solve Proportions and Their Applications

Topics:

- A. Use the definition of proportions (243 – 261 odd)
- B. Solve proportions (263 – 277 odd)
- C. Solve applications using proportions (279 – 297 odd)
- D. Write percent equations as proportions (299 – 309 odd)
- E. Translate and solve percent proportions (311 – 325 odd)

Suggested Homework Exercises: 243 – 325 odd

SUGGESTED REVIEW: Chapter 6 Review Exercises

Day One of review do review exercises: 331 – 371 odd

Day Two of review do review exercises: 373 – 421 odd

SUGGESTED ASSESSMENT: Chapter 6 Practice Test

Suggested Test: Do all exercises 423 – 442 on the Chapter 6 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.





CHAPTER 7 – THE PROPERTIES OF REAL NUMBERS

7.1 Rational and Irrational Numbers

Topics:

- A. Identify rational numbers and irrational numbers (1 – 11 odd)
- B. Classify different types of real numbers (13, 15)

Suggested Homework Exercises: 1 – 15 odd

7.2 Commutative and Associative Properties

Topics:

- A. Use the commutative and associative properties (21 – 43 odd)
- B. Evaluate expressions using the commutative and associative properties (45 – 51 odd)
- C. Simplify expressions using the commutative and associative properties (53 – 85 odd)

Suggested Homework Exercises: 21 – 85 odd

7.3 Distributive Property

Topics:

- A. Simplify expressions using the distributive property (91 – 141 odd)
- B. Evaluate expressions using the distributive property (143 – 153 odd)

Suggested Homework Exercises: 91 – 153 odd

7.4 Properties of Identity, Inverses, and Zero

Topics:

- A. Recognize the identity properties of addition and multiplication (159, 161)
- B. Use the inverse properties of addition and multiplication (163 – 173 odd)
- C. Use the properties of zero (175 – 185 odd)
- D. Simplify expressions using the properties of identities, inverses, and zero (187 – 209 odd)

Suggested Homework Exercises: 159 – 209 odd

7.5 Systems of Measurement

Topics:

- A. Perform unit conversions in the U.S. system (215 – 247 odd)
- B. Perform unit conversions in the metric system (249 – 269 odd)
- C. Convert between the U.S. and the metric system of measurement (271 – 281 odd)
- D. Convert between Fahrenheit and Celsius temperatures (283 – 297 odd)

Suggested Homework Exercises: 215 – 297 odd

SUGGESTED REVIEW: Chapter 7 Review Exercises

Day One of review do review exercises: 303 – 345 odd

Day Two of review do review exercises: 347 – 405 odd



**SUGGESTED ASSESSMENT:** Chapter 7 Practice Test

Suggested Test: Do all exercises 406 – 435 on the Chapter 7 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

CHAPTER 8 – SOLVING LINEAR EQUATIONS

8.1 Solve Equations Using the Subtraction and Addition Properties of Equality

Topics:

- A. Solve equations using the Subtraction and Addition Properties of Equality (1 – 21 odd)
- B. Solve equations that need to be simplified (23 – 41 odd)
- C. Translate to an equation and solve (43 – 53 odd)
- D. Translate and solve applications (55 – 63 odd)

Suggested Homework Exercises: 1 – 63 odd

8.2 Solve Equations Using the Division and Multiplication Properties of Equality

Topics:

- A. Solve equations using the Division and Multiplication Properties of Equality (69 – 93 odd)
- B. Solve equations that need to be simplified (95 – 103 odd)

Suggested Homework Exercises: 69 – 103 odd

8.3 Solve Equations with Variables and Constants on Both Sides

Topics:

- A. Solve an equation with constants on both sides (113 – 123 odd)
- B. Solve an equation with variables on both sides (125 – 135 odd)
- C. Solve an equation with variables and constants on both sides (137 – 161 odd)
- D. Solve equations using a general strategy (163 – 197 odd)

Suggested Homework Exercises: 113 – 197 odd

8.4 Solve Equations with Fraction or Decimal Coefficients

Topics:

- A. Solve equations with fraction coefficients (209 – 231 odd)
- B. Solve equations with decimal coefficients (233 – 247 odd)

Suggested Homework Exercises: 209 – 247 odd

SUGGESTED REVIEW: Chapter 8 Review Exercises

Day One of review do review exercises: 255 – 293 odd

Day Two of review do review exercises: 295 – 323 odd

SUGGESTED ASSESSMENT: Chapter 8 Practice Test

Suggested Test: Do all exercises 325 – 344 on the Chapter 8 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.





CHAPTER 9 – MATH MODELS AND GEOMETRY

9.1 Use a Problem Solving Strategy

Topics:

- A. Use a problem solving strategy for word problems (1 – 13 odd)
- B. Solve number problems (15 – 41 odd)

Suggested Homework Exercises: 1 – 41 odd

9.2 Solve Money Applications

Topics:

- A. Solve coin word problems (51 – 63 odd)
- B. Solve ticket and stamp word problems (65 – 73 odd)

Suggested Homework Exercises: 51 – 73 odd

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

Topics:

- A. Use the properties of angles (81 – 91 odd)
- B. Use the properties of triangles (93 – 107 odd)
- C. Use the Pythagorean Theorem (109 – 123 odd)

Suggested Homework Exercises: 81 – 123 odd

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

Topics:

- A. Understand linear, square, and cubic measure (129 – 139 odd)
- B. Use properties of rectangles (141 – 167 odd)

Suggested Homework Exercises: 129 – 167 odd

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

Topics:

- C. Use properties of triangles (169 – 195 odd)
- D. Use properties of trapezoids (197 – 207 odd)

Suggested Homework Exercises: 169 – 207 odd

9.5 Solve Geometry Applications: Circles and Irregular Figures

Topics:

- A. Use the properties of circles (217 – 233 odd)
- B. Find the area of irregular figures (235 – 253 odd)

Suggested Homework Exercises: 217 – 253 odd





9.6 Solve Geometry Applications: Volume and Surface Area

Topics:

- A. Find the volume and surface area of rectangular solids (263 – 277 odd)
- B. Find the volume and surface area of spheres (279 – 285 odd)
- C. Find the volume and surface area of cylinders (287 – 293 odd)
- D. Find the volume of cones (295 – 301 odd)

Suggested Homework Exercises: 263 – 301 odd

9.7 Solve a Formula for a Specific Variable

Topics:

- A. Use the distance, rate, and time formula (307 – 317 odd)
- B. Solve a formula for a specific variable (319 – 355 odd)

Suggested Homework Exercises: 307 – 355 odd

SUGGESTED REVIEW: Chapter 9 Review Exercises

Day One of review do review exercises: 361 – 401 odd

Day Two of review do review exercises: 403 – 467 odd

SUGGESTED ASSESSMENT: Chapter 9 Practice Test

Suggested Test: Do all exercises 470 – 494 on the Chapter 9 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

CHAPTER 10 – POLYNOMIALS

10.1 Add and Subtract Polynomials

Topics:

- A. Identify polynomials, monomials, binomials, and trinomials (1 – 7 odd)
- B. Determine the degree of polynomials (9 – 13 odd)
- C. Add and subtract monomials (15 – 25 odd)
- D. Add and subtract polynomials (27 – 43 odd)
- E. Evaluate a polynomial for a given value (45 – 49 odd)

Suggested Homework Exercises: 1 – 49 odd

10.2 Use Multiplication Properties of Exponents

Topics:

- A. Simplify expressions using the Product Property of Exponents (55 – 81 odd)
- B. Simplify expressions using the Power Property of Exponents (83 – 93 odd)
- C. Simplify expressions using the Product to a Power Property (95 – 101 odd)
- D. Simplify expressions by applying several properties (103 – 125 odd)
- E. Multiply monomials (127 – 137 odd)

Suggested Homework Exercises: 55 – 137 odd





10.3 Multiply Polynomials

Topics:

A. Multiply a polynomial by a monomial (145 – 177 odd)

B. Multiply a binomial by a binomial (179 – 205 odd)

C. Multiply a trinomial by a binomial (207 – 213 odd)

Suggested Homework Exercises: 145 – 213 odd

10.4 Divide Monomials

Topics:

A. Simplify expressions using the Quotient Property of Exponents (219 – 229 odd)

B. Simplify expressions with zero exponents (231 – 243 odd)

C. Simplify expressions using the Quotient to a Power Property (245 – 251 odd)

D. Simplify expressions by applying several properties (253 – 275 odd)

E. Divide monomials (277 – 295 odd)

Suggested Homework Exercises: 219 – 295 odd

10.5 Integer Exponents and Scientific Notation

Topics:

A. Use the definition of a negative exponent (317 – 343 odd)

B. Simplify expressions with integer exponents (345 – 383 odd)

C. Convert from decimal notation to scientific notation (385 – 395 odd)

D. Convert scientific notation to decimal form (397 – 407 odd)

E. Multiply and divide using scientific notation (409 – 415 odd)

Suggested Homework Exercises: 317 – 415 odd

10.6 Introduction to Factoring Polynomials

Topics:

A. Find the greatest common factor of two or more expressions (423 – 441 odd)

B. Factor the greatest common factor from a polynomial (443 – 489 odd)

Suggested Homework Exercises: 423 – 489 odd

SUGGESTED REVIEW: Chapter 10 Review Exercises

Day One of review do review exercises: 495 – 563 odd

Day Two of review do review exercises: 565 – 625 odd

SUGGESTED ASSESSMENT: Chapter 10 Practice Test

Suggested Test: Do all exercises 626 – 655 on the Chapter 10 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.





CHAPTER 11 – GRAPHS

11.1 Use the Rectangular Coordinate System

Topics:

- A. Plot points on a rectangular coordinate system (1 – 13 odd)
- B. Identify points on a graph (15 – 19 odd)
- C. Verify solutions to an equation in two variables (21 – 27 odd)
- D. Complete a table of solutions to a linear equation (29 – 33 odd)
- E. Find solutions to linear equations in two variables (29 – 33 odd)

Suggested Homework Exercises: 1 – 33 odd

11.2 Graphing Linear Equations

Topics:

- A. Recognize the relation between the solutions of an equation and its graph (39, 41)
- B. Graph a linear equation by plotting points (43 – 81 odd)
- C. Graph vertical and horizontal lines (83 – 95 odd)

Suggested Homework Exercises: 39 – 95 odd

11.3 Graphing with Intercepts

Topics:

- A. Identify the intercepts on a graph (117 – 125 odd)
- B. Find the intercepts from an equation of a line (127 – 153 odd)
- C. Graph a line using intercepts (155 – 179 odd)
- D. Choose the most convenient method to graph a line (181 – 195 odd)

Suggested Homework Exercises: 117 – 195 odd

11.4 Understand Slope of a Line

Topics:

- A. Find the slope of a line from its graph (215 – 229 odd)
- B. Find the slope of horizontal and vertical lines (231 – 237 odd)
- C. Use the slope formula to find the slope of a line between two points (239 – 249 odd)
- D. Graph a line given a point and the slope (251 – 265 odd)
- E. Solve slope applications (267, 269)

Suggested Homework Exercises: 215 – 269 odd

SUGGESTED REVIEW: Chapter 11 Review Exercises

Day One of review do review exercises: 277 – 301 odd

Day Two of review do review exercises: 303 – 315 odd, 321 – 337 odd

SUGGESTED ASSESSMENT: Chapter 11 Practice Test

Suggested Test: Do all exercises 339 – 353 on the Chapter 11 Practice Test

*Note: Grade your test using the Practice Test Answer Key posted on the course homepage.

