

Table of Contents for Instructional Units

Extending the Number System

Prerequisite Skills for Lesson 1: Working with the Number System

Summary of Prerequisite Skills

Skill 1: Applying the Properties of Integer Exponents

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 2: Operating with Polynomials

Summary of Prerequisite Skills

Skill 1: Replacing Variables in a Formula with Given Quantities

Skill 2: Using Variables to Express Unknown Quantities

Skill 3: Using the Distributive Property to Find Equivalent Expressions

Skill 4: Using Properties of Exponents to Simplify Expressions*

Skill 5: Combining Like Terms in Polynomials

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 3: Operating with Complex Numbers

Summary of Prerequisite Skills

Skill 1: Simplifying Expressions Using Properties of Exponents*

Skill 2: Using the Commutative Property to Reorder Sums and Differences*

Skill 3: Simplifying Powers of i **

Skill 4: Finding the Product of Two Binomials**

Supportive Instructional Strategies for Mathematics II

Answer Key

Quadratic Functions and Modeling

Prerequisite Skills for Lesson 1: Analyzing Quadratic Functions

Summary of Prerequisite Skills

Skill 1: Graphing Functions by Creating Tables of Values

Skill 2: Identifying Key Features of Linear Functions and Quadratic Functions in Standard Form**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 2: Interpreting Quadratic Functions

Summary of Prerequisite Skills

Skill 1: Knowing the Standard Form of Quadratic Functions**

Skill 2: Using Graphing Technology to Model and Interpret Quadratic Functions**

Skill 3: Understanding the Difference Between Domain and Range

Skill 4: Evaluating Quadratic Functions for Specific Values of x

Skill 5: Finding the Slope or Rate of Change of Linear Functions

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 3: Building Functions

Summary of Prerequisite Skills

Skill 1: Multiplying Linear Expressions

Skill 2: Factoring Quadratic Equations**

Skill 3: Finding the Value of a in the Vertex Form of a Quadratic Equation
Given the Vertex and a Point on the Parabola**

Skill 4: Finding the x - and y -coordinates of the Vertex of a Parabola**

Skill 5: Adding, Subtracting, Multiplying, and Dividing Functions

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 4: Graphing Other Functions

Summary of Prerequisite Skills

Skill 1: Determining the Domain and Range of an Algebraic Equation*

Skill 2: Evaluating Functions for Given Values*

Skill 3: Finding Ordered Pairs by Evaluating Functions

Skill 4: Evaluating Squares and Cubes of Real Numbers
With and Without a Calculator

Skill 5: Graphing a Linear Function*

Skill 6: Finding the Absolute Value of a Quantity

Skill 7: Determining Restricted Domains and Ranges for Application Problems**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 5: Analyzing Functions

Summary of Prerequisite Skills

Skill 1: Identifying the Base and Power of an Exponent and
Evaluating Exponential Expressions

Skill 2: Simplifying Exponential Expressions with Integer Exponents*

Skill 3: Finding the Vertex and x -intercepts of a Parabola**

Skill 4: Writing an Equation for a Simple Exponential Function

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 6: Transforming Functions

Summary of Prerequisite Skills

Skill 1: Graphing Quadratic Functions

Skill 2: Evaluating Quadratic Functions*

Skill 3: Finding Intercepts and Vertices of Quadratic Functions**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 7: Finding Inverse Functions

Summary of Prerequisite Skills

Skill 1: Identifying Independent and Dependent Variables

Skill 2: Determining the Domain and Range of Linear and Quadratic Functions*

Skill 3: Applying Inverse Operations to Isolate a Variable,
Including Taking Square Roots**

Skill 4: Using Function Notation*

Supportive Instructional Strategies for Mathematics II

Answer Key**Expressions and Equations****Prerequisite Skills for Lesson 1: Interpreting Structure in Expressions**

Summary of Prerequisite Skills

Skill 1: Translating Verbal Expressions to Algebraic Expressions

Skill 2: Adding and Subtracting Polynomials**

Skill 3: Evaluating Expressions for a Given Value*

Skill 4: Identifying Parts of an Expression

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 2: Creating and Solving Quadratic Equations in One Variable

Summary of Prerequisite Skills

Skill 1: Solving Linear Equations

Skill 2: Simplifying Radicals**

Skill 3: Multiplying Polynomials**

Skill 4: Using the Distributive Property*

Skill 5: Writing Quadratic Equations in Standard Form

Skill 6: Understanding Real Numbers**

Skill 7: Understanding Rational and Irrational Numbers

Skill 8: Solving Linear Inequalities

Skill 9: Factoring Quadratic Expressions**

Skill 10: Solving Quadratic Equations**

Skill 11: Graphing Solutions to Inequalities on a Number Line

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Prerequisite Skills for Lesson 3: Creating Quadratic Equations in Two or More Variables

Summary of Prerequisite Skills

Skill 1: Graphing Linear Equations*

Skill 2: Solving Quadratics Using the Quadratic Formula**

Skill 3: Solving Quadratics by Factoring**

Skill 4: Identifying the Standard Form of a Quadratic Function**

Skill 5: Finding the Vertex of a Quadratic Function**

Skill 6: Solving Equations by Taking the Square Root**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 4: Fundamental Theorem of Algebra

Summary of Prerequisite Skills

Skill 1: Adding, Subtracting, and Multiplying Complex Numbers**

Skill 2: Applying the Quadratic Formula**

Skill 3: Simplifying Radicals**

Skill 4: Using Solutions of a Quadratic Equation to Write the Equation in Factored Form**

Skill 5: Determining Perfect Square Factors of Whole Numbers*

Skill 6: Identifying the Degree of a Polynomial

Skill 7: Recognizing the Vertex of a Quadratic Graph as the Point Containing the Function's Maximum or Minimum**

Skill 8: Identifying the x -intercepts of a Function $f(x)$ as the Real Solutions of the Equation $f(x) = 0$ **

Skill 9: Factoring the Sum of Two Squares Using Imaginary Numbers**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 5: Rational Equations

Summary of Prerequisite Skills

Skill 1: Writing Values as Equivalent Fractions, Decimals, and Percentages

Skill 2: Adding, Subtracting, Multiplying, and Dividing with Decimals

Skill 3: Applying the Distributive Property*

Skill 4: Solving Linear One-Variable Equations*

Skill 5: Representing Comparisons of Quantities as Ratios and Rates

Skill 6: Solving Quadratic Equations**

Skill 7: Factoring Quadratic Trinomials, Including Writing Them as Products of Binomials**

Skill 8: Multiplying Binomials**

Skill 9: Graphing Equations of the Form $x = h$ and $y = k$, Where h and k Are Constants**

Skill 10: Evaluating a Function $f(x)$ Given the x -value and the Function Rule*

Skill 11: Plotting Points of a Function Given the Function Rule*

Skill 12: Solving Rational Equations**

Skill 13: Identifying the Least Common Denominator of Rational Expressions

Skill 14: Adding and Subtracting Rational Expressions Using the
Least Common Denominator

Skill 15: Recognizing that a Rational Function Is Undefined at $x = a$ If $x = a$
Is an Asymptote

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 6: Writing Exponential Expressions in Equivalent Forms

Summary of Prerequisite Skills

Skill 1: Evaluating Functions*

Skill 2: Solving Simple One-Variable Equations*

Skill 3: Evaluating Expressions with Exponents*

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 7: Solving Systems of Equations

Summary of Prerequisite Skills

Skill 1: Graphing Equations**

Skill 2: Solving Quadratic Functions**

Supportive Instructional Strategies for Mathematics II

Answer Key

Applications of Probability

Prerequisite Skills for Lesson 1: Describing Events

Summary of Prerequisite Skills

Skill 1: Drawing and Interpreting Venn and Tree Diagrams

Skill 2: Identifying Sample Spaces

Skill 3: Identifying Events

Skill 4: Describing Events as Subsets of Sample Spaces, Unions, Intersections,
or Complements of Other Events**

Skill 5: Writing Rational Numbers in Equivalent Forms Using Fractions, Decimals,
and Percents*

Skill 6: Calculating Probabilities and Expressing Them in Equivalent Forms Using
Fractions, Decimals, and Percents

Skill 7: Adding, Subtracting, Multiplying, and Dividing Rational Numbers

Skill 8: Applying the Addition Rule, Which Includes Probabilities of Unions
and Intersections**

Skill 9: Solving Equations*

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 2: Conditional Probability

Summary of Prerequisite Skills

Skill 1: Identifying and Determining the Size of Sample Spaces*

Skill 2: Identifying the Intersection of Two Sets

Skill 3: Simplifying Complex Fractions

Skill 4: Calculating Simple Probability

Skill 5: Using Tally Marks to Record Item Counts

Skill 6: Finding Probabilities and Conditional Probabilities**

Skill 7: Using Probabilities and Conditional Probabilities to Determine If Events Are Independent**

Skill 8: Identifying Whether Two Events Are Independent or Dependent**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 3: Combinatorics

Summary of Prerequisite Skills

Skill 1: Finding the Probability of a Single Event*

Skill 2: Finding the Probability of Compound Events, Both Independent and Dependent*

Skill 3: Calculating the Number of Permutations and Combinations**

Skill 4: Calculating Factorials and Simplifying Factorials in the Numerator and Denominator**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 4: Making and Analyzing Decisions

Summary of Prerequisite Skills

Skill 1: Finding Simple Probabilities*

Skill 2: Finding Compound Probabilities*

Skill 3: Determining the Size of a Sample Space*

Skill 4: Determining the Size of an Event in a Sample Space*

Supportive Instructional Strategies for Mathematics II

Answer Key**Similarity, Right Triangle Trigonometry, and Proof****Prerequisite Skills for Lesson 1: Line Segments**

Summary of Prerequisite Skills

Skill 1: Calculating Distance

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 2: Investigating Properties of Dilations

Summary of Prerequisite Skills

Skill 1: Operating with Fractions, Including Complex Fractions*

Skill 2: Calculating Slope*

Skill 3: Determining Parallel Lines

Skill 4: Converting Among Fractions, Decimals, and Percents*

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 3: Defining and Applying Similarity

Summary of Prerequisite Skills

Skill 1: Creating Ratios*

Skill 2: Solving Proportions

Skill 3: Identifying Congruent Triangles

Skill 4: Calculating the Lengths of Triangle Sides Using the Distance Formula*

Skill 5: Recognizing Transformations Performed as a Combination of Translations, Reflections, Rotations, and/or Dilations

Skill 6: Identifying Both Corresponding and Congruent Parts of Triangles

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 4: Proving Similarity

Summary of Prerequisite Skills

Skill 1: Creating Ratios*

Skill 2: Solving Proportions*

Skill 3: Identifying Both Corresponding and Congruent Parts of Triangles*

Skill 4: Understanding Angle Bisectors

Skill 5: Using the Distance Formula to Find the Lengths of Sides of Triangles*

Skill 6: Working With and Simplifying Square Roots**

Skill 7: Identifying Similar Triangles**

Skill 8: Using Similarity Statements to Find Unknown Lengths and Measures of Similar Triangles**

Skill 9: Working With and Simplifying Square Roots Using the Pythagorean Theorem

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 5: Proving Theorems About Lines and Angles

Summary of Prerequisite Skills

Skill 1: Identifying and Labeling Points, Lines, and Angles Using the Addition and Subtraction Properties of Angles

Skill 2: Setting Up and Solving Linear Equations with a Variable on Both Sides*

Skill 3: Applying the Supplement Theorem and Vertical Angles Theorem**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 6: Proving Theorems About Triangles

Summary of Prerequisite Skills

Skill 1: Identifying and Using Vertical Angles, Supplementary Angles, and Complementary Angles to Find Unknown Angle Measures**

Skill 2: Applying the Triangle Sum Theorem and the Exterior Angle Theorem to Find Unknown Measures of Triangles**

Skill 3: Justifying Congruence of Triangles**

Skill 4: Calculating the Midpoint of a Segment**

Skill 5: Calculating Slopes of Lines*

Skill 6: Determining If Lines Are Parallel Based on Slopes*

Skill 7: Identifying and Determining Perpendicular Bisectors and Angle Bisectors**

Skill 8: Identifying and Determining Altitudes and Medians of Triangles**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 7: Proving Theorems About Parallelograms

Summary of Prerequisite Skills

Skill 1: Applying Angle Relationships in Parallel Lines Intersected by a Transversal**

Skill 2: Applying Triangle Congruence and Similarity Postulates**

Skill 3: Setting Up and Solving Linear Equations*

Skill 4: Writing Proofs**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 8: Exploring Trigonometric Ratios

Summary of Prerequisite Skills

Skill 1: Measuring Angles with a Protractor

Skill 2: Understanding How to Label Angles and Sides in Triangles

Skill 3: Converting Fractions into Decimals*

Skill 4: Solving for One Unknown Number in a Ratio or Proportion*

Skill 5: Understanding the Properties of Similar Triangles**

Skill 6: Understanding and Applying the Properties of Dilations**

Skill 7: Using the Pythagorean Theorem*

Skill 8: Dividing with Decimals*

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 9: Applying Trigonometric Ratios

Summary of Prerequisite Skills

Skill 1: Manipulating the Pythagorean Theorem Given Any Two Sides of a Right Triangle*

Skill 2: Identifying the Appropriate Situations in Which to Use Sine, Cosine, or Tangent Based on the Given Information**

Skill 3: Identifying and Applying the Reciprocal Trigonometric Identities**

Skill 4: Finding the Values of the Trigonometric Functions If Given an Acute Angle of a Right Triangle**

Skill 5: Finding the Measure of an Acute Angle of a Right Triangle If Given the Side Lengths**

Skill 6: Simplifying Complex Fractions*

Supportive Instructional Strategies for Mathematics II

Answer Key

Circles With and Without Coordinates

Prerequisite Skills for Lesson 1: Introducing Circles

Summary of Prerequisite Skills

Skill 1: Setting Up and Solving Ratios and Proportions*

Skill 2: Describing Congruence in Terms of Rigid Motions and Similarity Transformations*

Skill 3: Understanding Dilations

Skill 4: Setting Up and Solving Equations*

Skill 5: Evaluating Expressions*

Skill 6: Understanding Central Angles, Inscribed Angles, and Intercepted Arcs**

Skill 7: Understanding Slope, Both Algebraically and Graphically*

Skill 8: Understanding the Relationship Between Perpendicular Lines

Skill 9: Understanding How to Write an Equation of a Line Using Point-Slope Form

Skill 10: Knowing that the Sum of the Angles of a Triangle Is 180°

Skill 11: Performing Calculations Using the Pythagorean Theorem, Including the Distance Formula*

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 2: Inscribed Polygons and Circumscribed Triangles

Summary of Prerequisite Skills

Skill 1: Understanding Angle Bisectors*

Skill 2: Finding Measures of Inscribed Angles and/or Their Intercepted Arcs**

Skill 3: Calculating the Supplement of an Angle**

Skill 4: Understanding the Properties of Special Quadrilaterals**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 3: Constructing Tangent Lines

Summary of Prerequisite Skills

Skill 1: Understanding the Relationship of the Slope of Perpendicular Lines*

Skill 2: Constructing a Perpendicular Bisector of a Line Segment

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 4: Finding Arc Lengths and Areas of Sectors

Summary of Prerequisite Skills

Skill 1: Finding the Circumference and Area of a Circle

Skill 2: Understanding Scale Factor in Similar Shapes

Skill 3: Using Ratios and Proportions*

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 5: Explaining and Applying Area and Volume Formulas

Summary of Prerequisite Skills

Skill 1: Using Formulas for the Areas of Polygons and Circles

Skill 2: Performing Calculations with the Angles in Circles**

Skill 3: Using the Pythagorean Theorem*

Skill 4: Using Ratios of Trigonometry**

Skill 5: Understanding How to Bisect Angles and Side Lengths*

Skill 6: Understanding and Using Formulas for the Volume of Prisms, Cylinders, Pyramids, Cones, and Spheres

Skill 7: Calculating with Fractions and Decimals*

Skill 8: Understanding Operations with Exponents*

Skill 9: Understanding and Applying the Formula for Circumference*

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 6: Deriving Equations

Summary of Prerequisite Skills

Skill 1: Applying the Pythagorean Theorem*

Skill 2: Calculating Horizontal and Vertical Distances in a Coordinate Plane

Skill 3: Writing Equivalent Forms of Expressions Involving Squares and Square Roots**

Skill 4: Writing Equivalent Forms of Expressions Involving Perfect Square Trinomials and Other Polynomials**

Skill 5: Completing the Square to Form Perfect Square Trinomials**

Skill 6: Graphing One-Variable Linear Equations*

Skill 7: Applying the Distance Formula*

Skill 8: Simplifying Expressions Involving Squares of Binomials**

Skill 9: Solving Quadratic Equations by Identifying Square Roots**

Supportive Instructional Strategies for Mathematics II

Prerequisite Skills for Lesson 7: Using Coordinates to Prove Geometric Theorems About Circles and Parabolas

Summary of Prerequisite Skills

Skill 1: Using Slope to Determine Whether Lines Are Parallel, Perpendicular, or Neither*

Skill 2: Identifying Congruent Angle Pairs Formed by Parallel Lines and a Transversal

Skill 3: Simplifying Expressions Involving Square Roots**

Skill 4: Applying the Standard Form of the Equation of a Circle**

Skill 5: Applying the Standard Forms of Equations of Parabolas**

Skill 6: Converting Between Different Forms of Equations of Parabolas that Represent Functions**

Skill 7: Applying Properties Involving Circles, Tangent Lines, and Inscribed Polygons**

Skill 8: Understanding Function Notation*

Supportive Instructional Strategies for Mathematics II

Answer Key