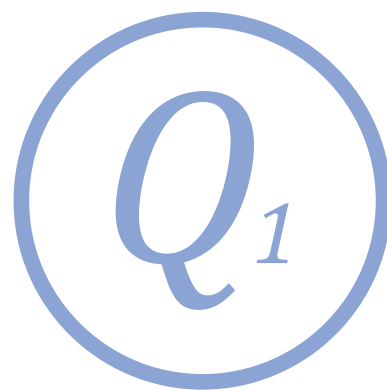
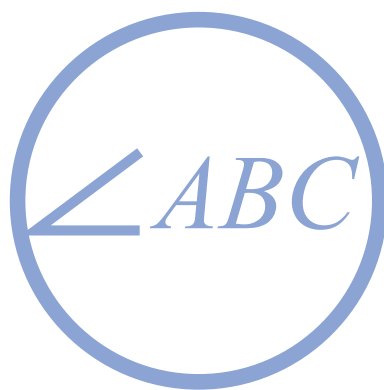
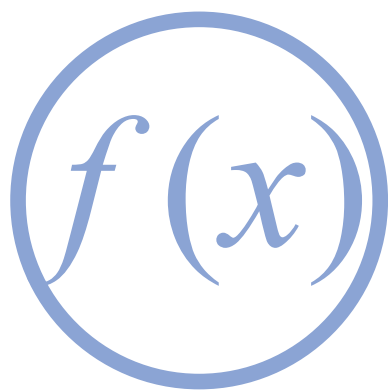


Common Core State Standards Integrated Pathway

Support Supplement

for Mathematics II



Teacher Resource
Program Overview



This program was developed and reviewed by experienced math educators who have both academic and professional backgrounds in mathematics. This ensures: freedom from mathematical errors, grade level appropriateness, freedom from bias, and freedom from unnecessary language complexity.

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Program Overview Contents

Table of Contents for Instructional Units.....	<i>v</i>
Introduction to the Program	1
Unit Structure	3
Standards Correlations	6

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Unit 1: Extending the Number System

Prerequisite Skills for Lesson 1: Working with the Number System

Summary of Prerequisite Skills	U1-1
Skill 1: Applying the Properties of Integer Exponents	U1-2
Supportive Instructional Strategies for Mathematics II	U1-15

Prerequisite Skills for Lesson 2: Operating with Polynomials

Summary of Prerequisite Skills	U1-18
Skill 1: Replacing Variables in a Formula with Given Quantities	U1-20
Skill 2: Using Variables to Express Unknown Quantities	U1-38
Skill 3: Using the Distributive Property to Find Equivalent Expressions	U1-50
Skill 4: Using Properties of Exponents to Simplify Expressions*	U1-65
Skill 5: Combining Like Terms in Polynomials	U1-70
Supportive Instructional Strategies for Mathematics II	U1-83

Prerequisite Skills for Lesson 3: Operating with Complex Numbers

Summary of Prerequisite Skills	U1-86
Skill 1: Simplifying Expressions Using Properties of Exponents*	U1-87
Skill 2: Using the Commutative Property to Reorder Sums and Differences*	U1-92
Skill 3: Simplifying Powers of i^{**}	U1-97
Skill 4: Finding the Product of Two Binomials**	U1-98
Supportive Instructional Strategies for Mathematics II	U1-99

Answer Key	U1-103
------------------	--------

Unit 2: Quadratic Functions and Modeling

Prerequisite Skills for Lesson 1: Analyzing Quadratic Functions

Summary of Prerequisite Skills	U2-1
Skill 1: Graphing Functions by Creating Tables of Values	U2-2
Skill 2: Identifying Key Features of Linear Functions and Quadratic Functions in Standard Form**	U2-19
Supportive Instructional Strategies for Mathematics II	U2-20

Prerequisite Skills for Lesson 2: Interpreting Quadratic Functions

Summary of Prerequisite Skills	U2-23
Skill 1: Knowing the Standard Form of Quadratic Functions**	U2-25
Skill 2: Using Graphing Technology to Model and Interpret Quadratic Functions**	U2-26
Skill 3: Understanding the Difference Between Domain and Range	U2-27
Skill 4: Evaluating Quadratic Functions for Specific Values of x	U2-45
Skill 5: Finding the Slope or Rate of Change of Linear Functions	U2-59
Supportive Instructional Strategies for Mathematics II	U2-81

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Prerequisite Skills for Lesson 3: Building Functions

Summary of Prerequisite Skills	U2-83
Skill 1: Multiplying Linear Expressions.	U2-85
Skill 2: Factoring Quadratic Equations**	U2-101
Skill 3: Finding the Value of a in the Vertex Form of a Quadratic Equation Given the Vertex and a Point on the Parabola**	U2-102
Skill 4: Finding the x - and y -coordinates of the Vertex of a Parabola**	U2-103
Skill 5: Adding, Subtracting, Multiplying, and Dividing Functions.	U2-104
Supportive Instructional Strategies for Mathematics II	U2-116

Prerequisite Skills for Lesson 4: Graphing Other Functions

Summary of Prerequisite Skills	U2-119
Skill 1: Determining the Domain and Range of an Algebraic Equation*	U2-121
Skill 2: Evaluating Functions for Given Values*	U2-126
Skill 3: Finding Ordered Pairs by Evaluating Functions.	U2-130
Skill 4: Evaluating Squares and Cubes of Real Numbers With and Without a Calculator.	U2-144
Skill 5: Graphing a Linear Function*	U2-158
Skill 6: Finding the Absolute Value of a Quantity	U2-164
Skill 7: Determining Restricted Domains and Ranges for Application Problems**	U2-176
Supportive Instructional Strategies for Mathematics II	U2-177

Prerequisite Skills for Lesson 5: Analyzing Functions

Summary of Prerequisite Skills	U2-180
Skill 1: Identifying the Base and Power of an Exponent and Evaluating Exponential Expressions.	U2-181
Skill 2: Simplifying Exponential Expressions with Integer Exponents*	U2-195
Skill 3: Finding the Vertex and x -intercepts of a Parabola**	U2-200
Skill 4: Writing an Equation for a Simple Exponential Function	U2-201
Supportive Instructional Strategies for Mathematics II	U2-216

Prerequisite Skills for Lesson 6: Transforming Functions

Summary of Prerequisite Skills	U2-219
Skill 1: Graphing Quadratic Functions	U2-220
Skill 2: Evaluating Quadratic Functions*	U2-239
Skill 3: Finding Intercepts and Vertices of Quadratic Functions**	U2-244
Supportive Instructional Strategies for Mathematics II	U2-245

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Prerequisite Skills for Lesson 7: Finding Inverse Functions

Summary of Prerequisite Skills	U2-248
Skill 1: Identifying Independent and Dependent Variables.....	U2-250
Skill 2: Determining the Domain and Range of Linear and Quadratic Functions*.....	U2-275
Skill 3: Applying Inverse Operations to Isolate a Variable, Including Taking Square Roots**.....	U2-279
Skill 4: Using Function Notation*	U2-280
Supportive Instructional Strategies for Mathematics II	U2-285
 Answer Key	 U2-287

Unit 3: Expressions and Equations

Prerequisite Skills for Lesson 1: Interpreting Structure in Expressions

Summary of Prerequisite Skills	U3-1
Skill 1: Translating Verbal Expressions to Algebraic Expressions	U3-3
Skill 2: Adding and Subtracting Polynomials**	U3-19
Skill 3: Evaluating Expressions for a Given Value*	U3-20
Skill 4: Identifying Parts of an Expression	U3-24
Supportive Instructional Strategies for Mathematics II	U3-37

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

Summary of Prerequisite Skills	U3-40
Skill 1: Solving Linear Equations	U3-43
Skill 2: Simplifying Radicals**	U3-60
Skill 3: Multiplying Polynomials**	U3-61
Skill 4: Using the Distributive Property*	U3-62
Skill 5: Writing Quadratic Equations in Standard Form	U3-66
Skill 6: Understanding Real Numbers**.....	U3-80
Skill 7: Understanding Rational and Irrational Numbers	U3-81
Skill 8: Solving Linear Inequalities.....	U3-93
Skill 9: Factoring Quadratic Expressions**	U3-108
Skill 10: Solving Quadratic Equations**.....	U3-109
Skill 11: Graphing Solutions to Inequalities on a Number Line	U3-110
Supportive Instructional Strategies for Mathematics II	U3-124

PROGRAM OVERVIEW

Table of Contents for Instructional Units

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

Summary of Prerequisite Skills	U3-129
Skill 1: Graphing Linear Equations*	U3-131
Skill 2: Solving Quadratics Using the Quadratic Formula**	U3-137
Skill 3: Solving Quadratics by Factoring**	U3-138
Skill 4: Identifying the Standard Form of a Quadratic Function**	U3-139
Skill 5: Finding the Vertex of a Quadratic Function**	U3-140
Skill 6: Solving Equations by Taking the Square Root**	U3-141
Supportive Instructional Strategies for Mathematics II	U3-142

Prerequisite Skills for Lesson 4: Fundamental Theorem of Algebra

Summary of Prerequisite Skills	U3-145
Skill 1: Adding, Subtracting, and Multiplying Complex Numbers**	U3-148
Skill 2: Applying the Quadratic Formula**	U3-149
Skill 3: Simplifying Radicals**	U3-150
Skill 4: Using Solutions of a Quadratic Equation to Write the Equation in Factored Form**	U3-151
Skill 5: Determining Perfect Square Factors of Whole Numbers*	U3-152
Skill 6: Identifying the Degree of a Polynomial	U3-156
Skill 7: Recognizing the Vertex of a Quadratic Graph as the Point Containing the Function's Maximum or Minimum**	U3-171
Skill 8: Identifying the x -intercepts of a Function $f(x)$ as the Real Solutions of the Equation $f(x) = 0$ **	U3-172
Skill 9: Factoring the Sum of Two Squares Using Imaginary Numbers**	U3-173
Supportive Instructional Strategies for Mathematics II	U3-174

Prerequisite Skills for Lesson 5: Rational Equations

Summary of Prerequisite Skills	U3-176
Skill 1: Writing Values as Equivalent Fractions, Decimals, and Percentages	U3-180
Skill 2: Adding, Subtracting, Multiplying, and Dividing with Decimals	U3-199
Skill 3: Applying the Distributive Property*	U3-216
Skill 4: Solving Linear One-Variable Equations*	U3-220
Skill 5: Representing Comparisons of Quantities as Ratios and Rates	U3-224
Skill 6: Solving Quadratic Equations**	U3-239
Skill 7: Factoring Quadratic Trinomials, Including Writing Them as Products of Binomials**	U3-240
Skill 8: Multiplying Binomials**	U3-241
Skill 9: Graphing Equations of the Form $x = h$ and $y = k$, Where h and k Are Constants**	U3-242
Skill 10: Evaluating a Function $f(x)$ Given the x -value and the Function Rule*	U3-243

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Skill 11: Plotting Points of a Function Given the Function Rule*	U3-248
Skill 12: Solving Rational Equations**	U3-254
Skill 13: Identifying the Least Common Denominator of Rational Expressions	U3-255
Skill 14: Adding and Subtracting Rational Expressions Using the Least Common Denominator	U3-268
Skill 15: Recognizing that a Rational Function Is Undefined at $x = a$ If $x = a$ Is an Asymptote	U3-287
Supportive Instructional Strategies for Mathematics II	U3-305
Prerequisite Skills for Lesson 6: Writing Exponential Expressions in Equivalent Forms	
Summary of Prerequisite Skills	U3-309
Skill 1: Evaluating Functions*	U3-310
Skill 2: Solving Simple One-Variable Equations*	U3-315
Skill 3: Evaluating Expressions with Exponents*	U3-319
Supportive Instructional Strategies for Mathematics II	U3-324
Prerequisite Skills for Lesson 7: Solving Systems of Equations	
Summary of Prerequisite Skills	U3-327
Skill 1: Graphing Equations**	U3-328
Skill 2: Solving Quadratic Functions**	U3-329
Supportive Instructional Strategies for Mathematics II	U3-330
Answer Key	U3-333
Unit 4: Applications of Probability	
Prerequisite Skills for Lesson 1: Describing Events	
Summary of Prerequisite Skills	U4-1
Skill 1: Drawing and Interpreting Venn and Tree Diagrams	U4-4
Skill 2: Identifying Sample Spaces	U4-29
Skill 3: Identifying Events	U4-43
Skill 4: Describing Events as Subsets of Sample Spaces, Unions, Intersections, or Complements of Other Events**	U4-58
Skill 5: Writing Rational Numbers in Equivalent Forms Using Fractions, Decimals, and Percents*	U4-59
Skill 6: Calculating Probabilities and Expressing Them in Equivalent Forms Using Fractions, Decimals, and Percents	U4-64
Skill 7: Adding, Subtracting, Multiplying, and Dividing Rational Numbers	U4-81
Skill 8: Applying the Addition Rule, Which Includes Probabilities of Unions and Intersections**	U4-99
Skill 9: Solving Equations*	U4-100
Supportive Instructional Strategies for Mathematics II	U4-104

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Prerequisite Skills for Lesson 2: Conditional Probability

Summary of Prerequisite Skills	U4-108
Skill 1: Identifying and Determining the Size of Sample Spaces*	U4-110
Skill 2: Identifying the Intersection of Two Sets	U4-114
Skill 3: Simplifying Complex Fractions	U4-127
Skill 4: Calculating Simple Probability	U4-146
Skill 5: Using Tally Marks to Record Item Counts	U4-163
Skill 6: Finding Probabilities and Conditional Probabilities**	U4-178
Skill 7: Using Probabilities and Conditional Probabilities to Determine If Events Are Independent**	U4-179
Skill 8: Identifying Whether Two Events Are Independent or Dependent**	U4-180
Supportive Instructional Strategies for Mathematics II	U4-181

Prerequisite Skills for Lesson 3: Combinatorics

Summary of Prerequisite Skills	U4-184
Skill 1: Finding the Probability of a Single Event*	U4-186
Skill 2: Finding the Probability of Compound Events, Both Independent and Dependent*	U4-191
Skill 3: Calculating the Number of Permutations and Combinations**	U4-196
Skill 4: Calculating Factorials and Simplifying Factorials in the Numerator and Denominator**	U4-197
Supportive Instructional Strategies for Mathematics II	U4-198

Prerequisite Skills for Lesson 4: Making and Analyzing Decisions

Summary of Prerequisite Skills	U4-201
Skill 1: Finding Simple Probabilities*	U4-203
Skill 2: Finding Compound Probabilities*	U4-208
Skill 3: Determining the Size of a Sample Space*	U4-213
Skill 4: Determining the Size of an Event in a Sample Space*	U4-217
Supportive Instructional Strategies for Mathematics II	U4-221

Answer Key	U4-225
------------	--------

Unit 5: Similarity, Right Triangle Trigonometry, and Proof

Prerequisite Skills for Lesson 1: Line Segments

Summary of Prerequisite Skills	U5-1
Skill 1: Calculating Distance	U5-2
Supportive Instructional Strategies for Mathematics II	U5-27

Prerequisite Skills for Lesson 2: Investigating Properties of Dilations

Summary of Prerequisite Skills	U5-30
Skill 1: Operating with Fractions, Including Complex Fractions*	U5-32
Skill 2: Calculating Slope*	U5-38

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Skill 3: Determining Parallel Lines	U5-44
Skill 4: Converting Among Fractions, Decimals, and Percents*	U5-64
Supportive Instructional Strategies for Mathematics II	U5-72
Prerequisite Skills for Lesson 3: Defining and Applying Similarity	
Summary of Prerequisite Skills	U5-75
Skill 1: Creating Ratios*	U5-77
Skill 2: Solving Proportions	U5-82
Skill 3: Identifying Congruent Triangles	U5-95
Skill 4: Calculating the Lengths of Triangle Sides Using the Distance Formula*	U5-112
Skill 5: Recognizing Transformations Performed as a Combination of Translations, Reflections, Rotations, and/or Dilations	U5-117
Skill 6: Identifying Both Corresponding and Congruent Parts of Triangles.....	U5-135
Supportive Instructional Strategies for Mathematics II	U5-148
Prerequisite Skills for Lesson 4: Proving Similarity	
Summary of Prerequisite Skills	U5-151
Skill 1: Creating Ratios*	U5-153
Skill 2: Solving Proportions*	U5-158
Skill 3: Identifying Both Corresponding and Congruent Parts of Triangles*.....	U5-162
Skill 4: Understanding Angle Bisectors	U5-166
Skill 5: Using the Distance Formula to Find the Lengths of Sides of Triangles*	U5-180
Skill 6: Working With and Simplifying Square Roots**	U5-185
Skill 7: Identifying Similar Triangles**	U5-186
Skill 8: Using Similarity Statements to Find Unknown Lengths and Measures of Similar Triangles**	U5-187
Skill 9: Working With and Simplifying Square Roots Using the Pythagorean Theorem....	U5-188
Supportive Instructional Strategies for Mathematics II	U5-203
Prerequisite Skills for Lesson 5: Proving Theorems About Lines and Angles	
Summary of Prerequisite Skills	U5-206
Skill 1: Identifying and Labeling Points, Lines, and Angles Using the Addition and Subtraction Properties of Angles.....	U5-207
Skill 2: Setting Up and Solving Linear Equations with a Variable on Both Sides*	U5-227
Skill 3: Applying the Supplement Theorem and Vertical Angles Theorem**	U5-231
Supportive Instructional Strategies for Mathematics II	U5-232
Prerequisite Skills for Lesson 6: Proving Theorems About Triangles	
Summary of Prerequisite Skills	U5-235
Skill 1: Identifying and Using Vertical Angles, Supplementary Angles, and Complementary Angles to Find Unknown Angle Measures**	U5-237
Skill 2: Applying the Triangle Sum Theorem and the Exterior Angle Theorem to Find Unknown Measures of Triangles**	U5-238
Skill 3: Justifying Congruence of Triangles**	U5-239
Skill 4: Calculating the Midpoint of a Segment**	U5-240

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Skill 5: Calculating Slopes of Lines*	U5-241
Skill 6: Determining If Lines Are Parallel Based on Slopes*	U5-247
Skill 7: Identifying and Determining Perpendicular Bisectors and Angle Bisectors**	U5-254
Skill 8: Identifying and Determining Altitudes and Medians of Triangles**	U5-255
Supportive Instructional Strategies for Mathematics II	U5-256
Prerequisite Skills for Lesson 7: Proving Theorems About Parallelograms	
Summary of Prerequisite Skills	U5-260
Skill 1: Applying Angle Relationships in Parallel Lines Intersected by a Transversal**	U5-261
Skill 2: Applying Triangle Congruence and Similarity Postulates**	U5-262
Skill 3: Setting Up and Solving Linear Equations*	U5-263
Skill 4: Writing Proofs**	U5-267
Supportive Instructional Strategies for Mathematics II	U5-268
Prerequisite Skills for Lesson 8: Exploring Trigonometric Ratios	
Summary of Prerequisite Skills	U5-272
Skill 1: Measuring Angles with a Protractor	U5-274
Skill 2: Understanding How to Label Angles and Sides in Triangles	U5-289
Skill 3: Converting Fractions into Decimals*	U5-302
Skill 4: Solving for One Unknown Number in a Ratio or Proportion*	U5-308
Skill 5: Understanding the Properties of Similar Triangles**	U5-312
Skill 6: Understanding and Applying the Properties of Dilations**	U5-313
Skill 7: Using the Pythagorean Theorem*	U5-314
Skill 8: Dividing with Decimals*	U5-318
Supportive Instructional Strategies for Mathematics II	U5-323
Prerequisite Skills for Lesson 9: Applying Trigonometric Ratios	
Summary of Prerequisite Skills	U5-326
Skill 1: Manipulating the Pythagorean Theorem Given Any Two Sides of a Right Triangle*	U5-328
Skill 2: Identifying the Appropriate Situations in Which to Use Sine, Cosine, or Tangent Based on the Given Information**	U5-332
Skill 3: Identifying and Applying the Reciprocal Trigonometric Identities**	U5-333
Skill 4: Finding the Values of the Trigonometric Functions If Given an Acute Angle of a Right Triangle**	U5-334
Skill 5: Finding the Measure of an Acute Angle of a Right Triangle If Given the Side Lengths**	U5-335
Skill 6: Simplifying Complex Fractions*	U5-336
Supportive Instructional Strategies for Mathematics II	U5-341
Answer Key	U5-345

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Unit 6: Circles With and Without Coordinates

Prerequisite Skills for Lesson 1: Introducing Circles

Summary of Prerequisite Skills	U6-1
Skill 1: Setting Up and Solving Ratios and Proportions*	U6-4
Skill 2: Describing Congruence in Terms of Rigid Motions and Similarity Transformations*	U6-8
Skill 3: Understanding Dilations	U6-13
Skill 4: Setting Up and Solving Equations*	U6-32
Skill 5: Evaluating Expressions*	U6-37
Skill 6: Understanding Central Angles, Inscribed Angles, and Intercepted Arcs**	U6-41
Skill 7: Understanding Slope, Both Algebraically and Graphically*	U6-42
Skill 8: Understanding the Relationship Between Perpendicular Lines	U6-47
Skill 9: Understanding How to Write an Equation of a Line Using Point-Slope Form	U6-65
Skill 10: Knowing that the Sum of the Angles of a Triangle Is 180° .	U6-80
Skill 11: Performing Calculations Using the Pythagorean Theorem, Including the Distance Formula*	U6-91
Supportive Instructional Strategies for Mathematics II	U6-95

Prerequisite Skills for Lesson 2: Inscribed Polygons and Circumscribed Triangles

Summary of Prerequisite Skills	U6-98
Skill 1: Understanding Angle Bisectors*	U6-99
Skill 2: Finding Measures of Inscribed Angles and/or Their Intercepted Arcs**	U6-103
Skill 3: Calculating the Supplement of an Angle**	U6-104
Skill 4: Understanding the Properties of Special Quadrilaterals**	U6-105
Supportive Instructional Strategies for Mathematics II	U6-106

Prerequisite Skills for Lesson 3: Constructing Tangent Lines

Summary of Prerequisite Skills	U6-109
Skill 1: Understanding the Relationship of the Slope of Perpendicular Lines*	U6-110
Skill 2: Constructing a Perpendicular Bisector of a Line Segment	U6-117
Supportive Instructional Strategies for Mathematics II	U6-134

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

Summary of Prerequisite Skills	U6-136
Skill 1: Finding the Circumference and Area of a Circle	U6-137
Skill 2: Understanding Scale Factor in Similar Shapes.	U6-149
Skill 3: Using Ratios and Proportions*	U6-166
Supportive Instructional Strategies for Mathematics II	U6-170

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

Summary of Prerequisite Skills	U6-172
Skill 1: Using Formulas for the Areas of Polygons and Circles	U6-174
Skill 2: Performing Calculations with the Angles in Circles**	U6-187
Skill 3: Using the Pythagorean Theorem*	U6-188
Skill 4: Using Ratios of Trigonometry**	U6-193

PROGRAM OVERVIEW

Table of Contents for Instructional Units

Skill 5: Understanding How to Bisect Angles and Side Lengths*	U6-194
Skill 6: Understanding and Using Formulas for the Volume of Prisms, Cylinders, Pyramids, Cones, and Spheres.	U6-198
Skill 7: Calculating with Fractions and Decimals*	U6-212
Skill 8: Understanding Operations with Exponents*	U6-217
Skill 9: Understanding and Applying the Formula for Circumference*	U6-221
Supportive Instructional Strategies for Mathematics II	U6-225
Prerequisite Skills for Lesson 6: Deriving Equations	
Summary of Prerequisite Skills	U6-228
Skill 1: Applying the Pythagorean Theorem*	U6-230
Skill 2: Calculating Horizontal and Vertical Distances in a Coordinate Plane.	U6-234
Skill 3: Writing Equivalent Forms of Expressions Involving Squares and Square Roots**	U6-247
Skill 4: Writing Equivalent Forms of Expressions Involving Perfect Square Trinomials and Other Polynomials**	U6-248
Skill 5: Completing the Square to Form Perfect Square Trinomials**	U6-249
Skill 6: Graphing One-Variable Linear Equations*	U6-250
Skill 7: Applying the Distance Formula*	U6-256
Skill 8: Simplifying Expressions Involving Squares of Binomials**	U6-261
Skill 9: Solving Quadratic Equations by Identifying Square Roots**	U6-262
Supportive Instructional Strategies for Mathematics II	U6-263
Prerequisite Skills for Lesson 7: Using Coordinates to Prove Geometric Theorems About Circles and Parabolas	
Summary of Prerequisite Skills	U6-266
Skill 1: Using Slope to Determine Whether Lines Are Parallel, Perpendicular, or Neither*	U6-268
Skill 2: Identifying Congruent Angle Pairs Formed by Parallel Lines and a Transversal	U6-275
Skill 3: Simplifying Expressions Involving Square Roots**	U6-290
Skill 4: Applying the Standard Form of the Equation of a Circle**	U6-291
Skill 5: Applying the Standard Forms of Equations of Parabolas**	U6-292
Skill 6: Converting Between Different Forms of Equations of Parabolas that Represent Functions**	U6-293
Skill 7: Applying Properties Involving Circles, Tangent Lines, and Inscribed Polygons**	U6-294
Skill 8: Understanding Function Notation*	U6-295
Supportive Instructional Strategies for Mathematics II	U6-300
Answer Key	U6-303

PROGRAM OVERVIEW

Introduction to the Program

Introduction

The *CCSS Integrated Pathway Support Supplement for Mathematics II* was designed to help teachers provide necessary differentiation to support all students in meeting the standards of *CCSS Integrated Pathway: Mathematics II*. These resources may be used in Support, ELL, or Special Education classes, in RTI program or Math Labs, or with individuals or groups requiring additional support.

The *CCSS Integrated Pathway Support Supplement for Mathematics II* is a complete set of materials developed around the prerequisite skills identified for each lesson of *CCSS Integrated Pathway: Mathematics II*. The Support Supplement provides teachers with the tools necessary to teach, remediate, or review concepts and skills necessary for success in Math II. The components are designed to support students who may have gaps or weaknesses in their grasp of the prerequisite skills, and/or who could benefit from additional support as they work through the Mathematics II course. The Support Supplement provides a variety of instructional approaches to meet the needs of students across the range of learning styles.

In addition to resources for providing instruction in prerequisite skills, the Support Supplement includes instructional strategies for helping students learn the targeted content of each lesson in *CCSS Integrated Pathway: Mathematics II*. The strategy categories include Suggestions for Graphic Organizers/Manipulatives, Suggestions for Discourse, Suggestions for English Language Learners, and Addressing Common Errors/Misconceptions.

In addition to a glossary, the complete *CCSS Integrated Pathway Support Supplement for Mathematics II* includes the following components:

For each lesson:

- Elementary Prerequisite Skills (described by relevant CCSS for grades 3–5)
- Targeted Prerequisite Skills (described by relevant CCSS for grades 6–8)
- Supportive Instructional Strategies for the corresponding Teacher Resource lesson

For each skill:

- Standard(s)
- Essential Questions
- Words to Know
- Recommended Resources
- Recommended Instructional Strategies for Skill Development
- Introduction
- Key Concepts
- Guided Practice
- Scaffolded Practice
- Problem-Based Task
- Problem-Based Task Coaching Questions
- Problem-Based Task Coaching Question Sample Responses
- Closure Activity
- Practice

PROGRAM OVERVIEW

Introduction to the Program

Structure of the Teacher Resource

The *CCSS Integrated Pathway Support Supplement for Mathematics II* is provided as a collection of unit books and an overview book. The materials are completely reproducible. You may also have purchased the *CCSS Integrated Pathway Support Supplement for Mathematics II Teacher Resource* in digital format. In this case, electronic “bookmarks” allow you to access the sections quickly and easily. The digital format also facilitates printing and copying student pages.

The Program Overview is the first section. Written for you, this section helps you to navigate the materials, offers a collection of graphic organizers and suggested strategies for their use, and shows how the lessons correlate to the Common Core State Standards for Grades 3–8 and to the units and lessons of the *CCSS Integrated Pathway: Mathematics II Program*.

The remaining materials focus on content, knowledge, and application of the prerequisite skills necessary for success in the CCSS Integrated Pathway Mathematics II curriculum. The materials in the *CCSS Integrated Pathway Support Supplement for Mathematics II* are designed to be flexible so that you can mix and match activities as the needs of your students and your instructional style dictate.

Please note: Throughout the Teacher Resource, page references are provided on the lower, inner corner of some pages. These references indicate the corresponding page(s) in the Student Workbook (SWB) and have been included here to facilitate assigning materials to students.

Glossary

The Glossary contains vocabulary terms and formulas from throughout the program, organized alphabetically. Each listing provides the term and the definition in both English and Spanish to support ELL students. The listings include the skill(s) where the term can be found in the instruction.

PROGRAM OVERVIEW

Unit Structure

All of the instructional units have some common features. Each Support Supplement lesson begins with a list of prerequisite skills and their associated standard(s) as addressed in the corresponding *CCSS Integrated Pathway: Mathematics II* lesson. Instruction for Targeted Practice Skills includes Essential Questions, vocabulary (titled “Words to Know”), and a list of recommended websites to be used as additional resources. Furthermore, Recommended Instructional Strategies for Skill Development relevant to each Targeted Prerequisite Skill are also provided.

Each set of Skill Instruction includes an introduction, key concepts, guided practice examples, scaffolded practice examples, a problem-based task with coaching questions and sample responses, a closure activity, and practice. Each lesson ends with a series of suggestions for supporting students in learning the targeted content of the corresponding *CCSS Integrated Pathway: Mathematics II* lesson.

Targeted Prerequisite Skills that have been addressed in previous lessons in the Support Supplement are revisited in abbreviated form to build on prior knowledge and promote skill-building. Grade-level skills addressed in *CCSS Integrated Pathway: Mathematics II* are not revisited; instead, references are provided to the relevant instruction in *CCSS Integrated Pathway: Mathematics II* for each grade-level skill.

All of the components are described below and on the following pages for your reference.

Elementary and Targeted Prerequisite Skills for the Lesson

All prerequisite skills, including those described by standards from grades 3–5 (Elementary Skills) and those from grades 6–8 (Targeted Skills), that are addressed in the entire lesson are listed.

Common Core State Standards for the Targeted Skill Instruction

The specific standard or standards addressed by the instruction for each Targeted Prerequisite Skill are presented at the beginning of the instruction for that skill.

Common Core Standards for Mathematical Practice for the Targeted Skill

An “SMP” callout box contains the numbers 1–8, corresponding to each of the eight Standards for Mathematical Practice. Check marks indicate which of the SMPs are addressed in the instruction.

Essential Questions

These are intended to guide students’ thinking as they proceed through the skill. By the end of each skill, students should be able to respond to the questions.

Words to Know

Vocabulary terms and formulas are provided as background information for instruction or to review key concepts that are addressed in the skill.

PROGRAM OVERVIEW

Unit Structure

Recommended Resources

This is a list of websites that can be used as additional resources. Some websites are games; others provide additional examples and/or explanations. The links for these resources are live in the PDF version of the Support Supplement. (*Note:* These website links will be monitored and repaired or replaced as necessary.)

Recommended Instructional Strategies for Skill Development

This section offers guidance on appropriate graphic organizers and/or manipulatives for each Targeted Prerequisite Skill, as well as suggestions for discussing and drawing connections to real-life applications of the instructional topic.

Introduction

This section briefly describes concepts about to be presented and may contain some Words to Know.

Key Concepts

Provided in bulleted form, this instruction highlights the important ideas and/or processes for meeting the standard.

Guided Practice

This section provides step-by-step examples of applying the Key Concepts.

Scaffolded Practice

The Guided Practice example problems, without explanations or answers, are provided as worksheets to give students an opportunity to build procedural fluency. The first Scaffolded Practice example provides step-by-step prompts for solving. The remaining examples are presented without prompts.

Problem-Based Task

This activity can be used to walk students through the application of the standard, prior to traditional instruction or at the end of instruction. Addressed Standards for Mathematical Practice are noted.

Problem-Based Task Coaching Questions

These questions scaffold the task and guide students to solving the problem(s) presented in the task.

Problem-Based Task Coaching Questions Sample Responses

These are the answers and suggested appropriate responses to the coaching questions. In some cases answers may vary, but a sample answer is given for each question.

Recommended Closure Activity

Students are given the opportunity to synthesize and reflect on the lesson through a journal entry or discussion of one or more of the Essential Questions.

PROGRAM OVERVIEW

Unit Structure

Practice

Each set of Skill Instruction includes practice problems to support students' achievement of the learning objectives. These worksheets are written for the student. They can be used in any combination of teacher-led instruction, cooperative learning, or independent application of knowledge.

Supportive Instructional Strategies for the Teacher Resource

This section offers strategies for supporting students in achieving the standards in the corresponding *CCSS Integrated Pathway: Mathematics II* lesson. These include Suggestions for: Graphic Organizers/ Manipulatives, Discourse, and supporting English Language Learners. It also provides suggestions for Addressing Common Errors/Misconceptions related to the instructional topics.

Answer Key

Answers for all of the Practice problems are provided at the end of each unit.

Elementary Skill Instruction (E-Skills)

Provided in a comprehensive appendix included with the Support Supplement, this collection provides a brief set of Introduction, Guided Practice, and Practice to refresh elementary (grades 3–5) skills as appropriate.

Graphing Calculators

Step-by-step instructions for using a TI-Nspire and a TI-83/84 are provided whenever graphing calculators are referenced.

Digital Instruction

Delivered via PowerPoint, this instruction adds interactive applets to selected examples in each set of Skill Instruction and Guided Practice to illuminate and illustrate key concepts. This can be used in preparation for the class, for teaching, or for helping students catch up after missing class.

Readiness Assessments

Each Readiness Assessment is an optional tool available to help determine gaps in students' prior knowledge. A broad test with one or more problems for each of the Targeted Prerequisite Skills, each Readiness Assessment can be administered at the beginning of the school year or semester to identify the needs of individual students and/or areas of common need. Readiness Assessments are available in both paper-and-pencil and online formats. The assessment results can help to guide decisions about the implementation of the supplemental materials in this program, indicating which students might benefit from review or remediation on particular skills.

PROGRAM OVERVIEW

Standards Correlations

Each lesson in the *CCSS Integrated Pathway Support Supplement for Mathematics II* was written specifically to address one or more Common Core State Standards describing prerequisite skills necessary for achieving the standards in the corresponding lesson of *CCSS Integrated Pathway: Mathematics II*. These standards are drawn from the elementary (grades 3–5) and middle-level (grades 6–8) CCSS. Each lesson lists the standards covered in all the sets of Skill Instruction, and each set of Skill Instruction lists the standards addressed in that specific part. In this section, you'll find a comprehensive list mapping the Support resources to the CCSS describing the identified prerequisite skills.

Single asterisks (*) denote Targeted Prerequisite Skills that have been addressed in previous lessons in the Support Supplement. These topics are revisited in abbreviated form to build on prior knowledge and promote skill-building. Double asterisks (**) denote grade-level skills addressed in *CCSS Integrated Pathway: Mathematics II*. These topics are not revisited; instead, references are provided to the relevant instruction in *CCSS Integrated Pathway: Mathematics II* for each grade-level skill.

The Elementary Prerequisite Skills (E-Skills) are italicized for visual distinction from the targeted skills. (*Note: E-Skills instruction is addressed in the comprehensive appendix.*)

Guide to Common Core State Standards Annotation

As you use this resource, you may come across a symbol included with the Common Core standards for some of the lessons and activities. The description of the star symbol is found below, taken verbatim from the Common Core State Standards Initiative website, at www.corestandards.org.

Symbol: ★

Denotes: Modeling Standards

Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (★).

From <http://www.walch.com/CCSS/00003>

PROGRAM OVERVIEW

Standards Correlations

Unit 1: Extending the Number System			
Lesson	Title	Standard(s)	Pages
Lesson 1	Working with the Number System: Prerequisite Skills		
	<i>E-Skill 1: Evaluating Expressions Using the Order of Operations</i>	5.OA.1	A-2
	<i>E-Skill 2: Rewriting Fractions in the Simplest Form</i>	4.NF.1	A-9
	<i>E-Skill 3: Rewriting Mixed Numbers as Improper Fractions</i>	4.NF.3c	A-14
	Skill 1: Applying the Properties of Integer Exponents	8.EE.1	U1-2
Lesson 2	Operating with Polynomials: Prerequisite Skills		
	Skill 1: Replacing Variables in a Formula with Given Quantities	6.EE.2c	U1-20
	Skill 2: Using Variables to Express Unknown Quantities	6.EE.6	U1-38
	Skill 3: Using the Distributive Property to Find Equivalent Expressions	6.EE.3	U1-50
	Skill 4: Using Properties of Exponents to Simplify Expressions*	8.EE.1	U1-65
	Skill 5: Combining Like Terms in Polynomials	8.EE.7b	U1-70
Lesson 3	Operating with Complex Numbers: Prerequisite Skills		
	<i>E-Skill 4: Finding Quotients that Include Remainders</i>	4.NBT.6	A-19
	<i>E-Skill 5: Adding Two Fractions with Different Denominators</i>	5.NF.1	A-24
	Skill 1: Simplifying Expressions Using Properties of Exponents*	8.EE.1	U1-87
	Skill 2: Using the Commutative Property to Reorder Sums and Differences*	6.EE.3	U1-92
	Skill 3: Simplifying Powers of i^{**}	N-CN.1	U1-97
Skill 4: Finding the Product of Two Binomials**	A-APR.1	U1-98	

PROGRAM OVERVIEW

Standards Correlations

Unit 2: Quadratic Functions and Modeling			
Lesson	Title	Standard(s)	Pages
Lesson 1	Analyzing Quadratic Functions: Prerequisite Skills		
	<i>E-Skill 1: Evaluating Expressions Using the Order of Operations</i>	5.OA.1	A-2
	Skill 1: Graphing Functions by Creating Tables of Values	A-CED.2★	U2-2
	Skill 2: Identifying Key Features of Linear Functions and Quadratic Functions in Standard Form**	F-IF.4★	U2-19
Lesson 2	Interpreting Quadratic Functions: Prerequisite Skills		
	Skill 1: Knowing the Standard Form of Quadratic Functions**	F-IF.8a	U2-25
	Skill 2: Using Graphing Technology to Model and Interpret Quadratic Functions**	F-IF.4★	U2-26
	Skill 3: Understanding the Difference Between Domain and Range	F-IF.1	U2-27
	Skill 4: Evaluating Quadratic Functions for Specific Values of x	F-IF.2	U2-45
	Skill 5: Finding the Slope or Rate of Change of Linear Functions	8.F.4	U2-59
Lesson 3	Building Functions: Prerequisite Skills		
	Skill 1: Multiplying Linear Expressions	7.EE.1	U2-85
	Skill 2: Factoring Quadratic Equations**	F-IF.8a	U2-101
	Skill 3: Finding the Value of a in the Vertex Form of a Quadratic Equation Given the Vertex and a Point on the Parabola**	F-IF.8a	U2-102
	Skill 4: Finding the x - and y -coordinates of the Vertex of a Parabola**	F-IF.8a	U2-103
	Skill 5: Adding, Subtracting, Multiplying, and Dividing Functions	F-BF.1b★	U2-104
Lesson 4	Graphing Other Functions: Prerequisite Skills		
	<i>E-Skill 6: Creating Graphs Using Ordered Pairs</i>	5.G.1	A-30
	Skill 1: Determining the Domain and Range of an Algebraic Equation*	F-IF.1	U2-121
	Skill 2: Evaluating Functions for Given Values*	F-IF.2	U2-126

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 4, <i>cont.</i>	Skill 3: Finding Ordered Pairs by Evaluating Functions	8.F.1	U2-130
	Skill 4: Evaluating Squares and Cubes of Real Numbers With and Without a Calculator	8.EE.2	U2-144
	Skill 5: Graphing a Linear Function*	A–CED.2★	U2-158
	Skill 6: Finding the Absolute Value of a Quantity	6.NS.7c	U2-164
	Skill 7: Determining Restricted Domains and Ranges for Application Problems**	F–IF.5★	U2-176
Lesson 5	Analyzing Functions: Prerequisite Skills		
	<i>E-Skill 1: Evaluating Expressions Using the Order of Operations</i>	5.OA.1	A-2
	Skill 1: Identifying the Base and Power of an Exponent and Evaluating Exponential Expressions	6.EE.1	U2-181
	Skill 2: Simplifying Exponential Expressions with Integer Exponents*	8.EE.1	U2-195
	Skill 3: Finding the Vertex and x -intercepts of a Parabola**	F–IF.7a★	U2-200
	Skill 4: Writing an Equation for a Simple Exponential Function	A–CED.1★	U2-201
Lesson 6	Transforming Functions: Prerequisite Skills		
	Skill 1: Graphing Quadratic Functions	A–REI.10	U2-220
	Skill 2: Evaluating Quadratic Functions*	F–IF.2	U2-239
	Skill 3: Finding Intercepts and Vertices of Quadratic Functions**	F–IF.7a★	U2-244
Lesson 7	Finding Inverse Functions: Prerequisite Skills		
	<i>E-Skill 1: Evaluating Expressions Using the Order of Operations</i>	5.OA.1	A-2
	Skill 1: Identifying Independent and Dependent Variables	6.EE.9	U2-250
	Skill 2: Determining the Domain and Range of Linear and Quadratic Functions*	F–IF.1	U2-275
	Skill 3: Applying Inverse Operations to Isolate a Variable, Including Taking Square Roots**	A–REI.4b	U2-279
	Skill 4: Using Function Notation*	F–IF.2	U2-280

PROGRAM OVERVIEW

Standards Correlations

Unit 3: Expressions and Equations			
Lesson	Title	Standard(s)	Pages
Lesson 1	Interpreting Structure in Expressions: Prerequisite Skills		
	<i>E-Skill 1: Evaluating Expressions Using the Order of Operations</i>	5.OA.1	A-2
	Skill 1: Translating Verbal Expressions to Algebraic Expressions	6.EE.2a	U3-3
	Skill 2: Adding and Subtracting Polynomials**	A-APR.2	U3-19
	Skill 3: Evaluating Expressions for a Given Value*	6.EE.2c	U3-20
	Skill 4: Identifying Parts of an Expression	6.EE.2b	U3-24
Lesson 2	Creating and Solving Quadratic Equations in One Variable: Prerequisite Skills		
	<i>E-Skill 1: Evaluating Expressions Using the Order of Operations</i>	5.OA.1	A-2
	Skill 1: Solving Linear Equations	8.EE.7b	U3-43
	Skill 2: Simplifying Radicals**	N-RN.2	U3-60
	Skill 3: Multiplying Polynomials**	A-APR.1	U3-61
	Skill 4: Using the Distributive Property*	6.EE.3	U3-62
	Skill 5: Writing Quadratic Equations in Standard Form	A-CED.1★	U3-66
	Skill 6: Understanding Real Numbers**	N-RN.1	U3-80
	Skill 7: Understanding Rational and Irrational Numbers	8.NS.1	U3-81
	Skill 8: Solving Linear Inequalities	A-REI.3	U3-93
	Skill 9: Factoring Quadratic Expressions**	A-REI.4a	U3-108
	Skill 10: Solving Quadratic Equations**	A-REI.4b	U3-109
Skill 11: Graphing Solutions to Inequalities on a Number Line	6.EE.8	U3-110	
Lesson 3	Creating Quadratic Equations in Two or More Variables: Prerequisite Skills		
	Skill 1: Graphing Linear Equations*	A-CED.2★	U3-131
	Skill 2: Solving Quadratics Using the Quadratic Formula**	A-REI.4b	U3-137
	Skill 3: Solving Quadratics by Factoring**	A-REI.4b	U3-138
	Skill 4: Identifying the Standard Form of a Quadratic Function**	F-IF.8a	U3-139
	Skill 5: Finding the Vertex of a Quadratic Function**	F-IF.8a	U3-140
Skill 6: Solving Equations by Taking the Square Root**	A-REI.4b	U3-141	

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 4	Fundamental Theorem of Algebra: Prerequisite Skills		
	<i>E-Skill 5: Adding Two Fractions with Different Denominators</i>	5.NF.1	A-24
	Skill 1: Adding, Subtracting, and Multiplying Complex Numbers**	N–CN.2	U3-148
	Skill 2: Applying the Quadratic Formula**	A–REI.4b	U3-149
	Skill 3: Simplifying Radicals**	N–RN.2	U3-150
	Skill 4: Using Solutions of a Quadratic Equation to Write the Equation in Factored Form**	F–IF.8a	U3-151
	Skill 5: Determining Perfect Square Factors of Whole Numbers*	8.EE.2	U3-152
	Skill 6: Identifying the Degree of a Polynomial	A–SSE.1a★	U3-156
	Skill 7: Recognizing the Vertex of a Quadratic Graph as the Point Containing the Function’s Maximum or Minimum**	A–SSE.3b★	U3-171
	Skill 8: Identifying the x -intercepts of a Function $f(x)$ as the Real Solutions of the Equation $f(x) = 0$ **	F–IF.4★	U3-172
Skill 9: Factoring the Sum of Two Squares Using Imaginary Numbers**	N–CN.8 (+)	U3-173	
Lesson 5	Rational Equations: Prerequisite Skills		
	<i>E-Skill 2: Rewriting Fractions in the Simplest Form</i>	4.NF.1	A-9
	<i>E-Skill 5: Adding Two Fractions with Different Denominators</i>	5.NF.1	A-24
	Skill 1: Writing Values as Equivalent Fractions, Decimals, and Percentages	7.EE.3	U3-180
	Skill 2: Adding, Subtracting, Multiplying, and Dividing with Decimals	6.NS.3	U3-199
	Skill 3: Applying the Distributive Property*	6.EE.3	U3-216
Skill 4: Solving Linear One-Variable Equations*	8.EE.7b	U3-220	

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 5, cont.	Skill 5: Representing Comparisons of Quantities as Ratios and Rates	7.RP.2c	U3-224
	Skill 6: Solving Quadratic Equations**	A-REI.4b	U3-239
	Skill 7: Factoring Quadratic Trinomials, Including Writing Them as Products of Binomials**	A-REI.4b	U3-240
	Skill 8: Multiplying Binomials**	A-APR.1	U3-241
	Skill 9: Graphing Equations of the Form $x = h$ and $y = k$, Where h and k Are Constants**	F-IF.7a★	U3-242
	Skill 10: Evaluating a Function $f(x)$ Given the x -value and the Function Rule*	F-IF.2	U3-243
	Skill 11: Plotting Points of a Function Given the Function Rule*	8.F.1	U3-248
	Skill 12: Solving Rational Equations**	A-REI.2	U3-254
	Skill 13: Identifying the Least Common Denominator of Rational Expressions	A-APR.6	U3-255
	Skill 14: Adding and Subtracting Rational Expressions Using the Least Common Denominator	A-APR.7 (+)	U3-268
	Skill 15: Recognizing that a Rational Function Is Undefined at $x = a$ If $x = a$ Is an Asymptote	F-IF.7d★ (+)	U3-287
Lesson 6	Writing Exponential Expressions in Equivalent Forms: Prerequisite Skills		
	<i>E-Skill 7: Identifying the Reciprocal of a Number</i>	5.NF.7b	A-47
	Skill 1: Evaluating Functions*	F-IF.2	U3-310
	Skill 2: Solving Simple One-Variable Equations*	8.EE.7b	U3-315
	Skill 3: Evaluating Expressions with Exponents*	6.EE.1	U3-319
Lesson 7	Solving Systems of Equations: Prerequisite Skills		
	Skill 1: Graphing Equations**	F-IF.7a★	U3-328
	Skill 2: Solving Quadratic Functions**	A-REI.4b	U3-329

PROGRAM OVERVIEW

Standards Correlations

Unit 4: Applications of Probability			
Lesson	Title	Standard(s)	Pages
Lesson 1	Describing Events: Prerequisite Skills		
	<i>E-Skill 2: Rewriting Fractions in the Simplest Form</i>	4.NF.1	A-9
	Skill 1: Drawing and Interpreting Venn and Tree Diagrams	7.SP.8b	U4-4
	Skill 2: Identifying Sample Spaces	7.SP.1	U4-29
	Skill 3: Identifying Events	7.SP.8c	U4-43
	Skill 4: Describing Events as Subsets of Sample Spaces, Unions, Intersections, or Complements of Other Events**	S-CP.1★	U4-58
	Skill 5: Writing Rational Numbers in Equivalent Forms Using Fractions, Decimals, and Percents*	7.EE.3	U4-59
	Skill 6: Calculating Probabilities and Expressing Them in Equivalent Forms Using Fractions, Decimals, and Percents	7.SP.8a	U4-64
	Skill 7: Adding, Subtracting, Multiplying, and Dividing Rational Numbers	7.NS.1	U4-81
	Skill 8: Applying the Addition Rule, Which Includes Probabilities of Unions and Intersections**	S-CP.7★	U4-99
Skill 9: Solving Equations*	8.EE.7b	U4-100	
Lesson 2	Conditional Probability: Prerequisite Skills		
	Skill 1: Identifying and Determining the Size of Sample Spaces*	7.SP.1	U4-110
	Skill 2: Identifying the Intersection of Two Sets	7.SP.3	U4-114
	Skill 3: Simplifying Complex Fractions	A-APR.6	U4-127
	Skill 4: Calculating Simple Probability	7.SP.7a	U4-146
	Skill 5: Using Tally Marks to Record Item Counts	7.SP.7b	U4-163
	Skill 6: Finding Probabilities and Conditional Probabilities**	S-CP.6★	U4-178
	Skill 7: Using Probabilities and Conditional Probabilities to Determine If Events Are Independent**	S-CP.3★	U4-179
Skill 8: Identifying Whether Two Events Are Independent or Dependent**	S-CP.2★	U4-180	

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 3	Combinatorics: Prerequisite Skills		
	<i>E-Skill 2: Rewriting Fractions in the Simplest Form</i>	4.NF.1	A-9
	<i>E-Skill 8: Finding Products and Quotients</i>	5.NBT.5 5.NBT.6	A-52
	Skill 1: Finding the Probability of a Single Event*	7.SP.7a	U4-186
	Skill 2: Finding the Probability of Compound Events, Both Independent and Dependent*	7.SP.8a	U4-191
	Skill 3: Calculating the Number of Permutations and Combinations**	S-CP.9* (+)	U4-196
	Skill 4: Calculating Factorials and Simplifying Factorials in the Numerator and Denominator**	S-CP.9* (+)	U4-197
Lesson 4	Making and Analyzing Decisions: Prerequisite Skills		
	Skill 1: Finding Simple Probabilities*	7.SP.7a	U4-203
	Skill 2: Finding Compound Probabilities*	7.SP.8a	U4-208
	Skill 3: Determining the Size of a Sample Space*	7.SP.1	U4-213
	Skill 4: Determining the Size of an Event in a Sample Space*	7.SP.1	U4-217

PROGRAM OVERVIEW

Standards Correlations

Unit 5: Similarity, Right Triangle Trigonometry, and Proof			
Lesson	Title	Standard(s)	Pages
Lesson 1	Line Segments: Prerequisite Skills		
	<i>E-Skill 6: Creating Graphs Using Ordered Pairs</i>	5.G.1	A-30
	Skill 1: Calculating Distance	8.G.8	U5-2
Lesson 2	Investigating Properties of Dilations: Prerequisite Skills		
	<i>E-Skill 9: Operating with Decimals</i>	5.NBT.7	A-62
	Skill 1: Operating with Fractions, Including Complex Fractions*	A-APR.6	U5-32
	Skill 2: Calculating Slope*	8.F.4	U5-38
	Skill 3: Determining Parallel Lines	G-GPE.5	U5-44
	Skill 4: Converting Among Fractions, Decimals, and Percents*	7.EE.3	U5-64
Lesson 3	Defining and Applying Similarity: Prerequisite Skills		
	Skill 1: Creating Ratios*	7.RP.2c	U5-77
	Skill 2: Solving Proportions	7.RP.3	U5-82
	Skill 3: Identifying Congruent Triangles	G-CO.6	U5-95
	Skill 4: Calculating the Lengths of Triangle Sides Using the Distance Formula*	8.G.8	U5-112
	Skill 5: Recognizing Transformations Performed as a Combination of Translations, Reflections, Rotations, and/or Dilations	G-CO.2	U5-117
	Skill 6: Identifying Both Corresponding and Congruent Parts of Triangles	G-CO.7	U5-135

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 4	Proving Similarity: Prerequisite Skills		
	Skill 1: Creating Ratios*	7.RP.2c	U5-153
	Skill 2: Solving Proportions*	7.RP.3	U5-158
	Skill 3: Identifying Both Corresponding and Congruent Parts of Triangles*	G-CO.7	U5-162
	Skill 4: Understanding Angle Bisectors	G-CO.12	U5-166
	Skill 5: Using the Distance Formula to Find the Lengths of Sides of Triangles*	8.G.8	U5-180
	Skill 6: Working With and Simplifying Square Roots**	N-RN.2	U5-185
	Skill 7: Identifying Similar Triangles**	G-SRT.2	U5-186
	Skill 8: Using Similarity Statements to Find Unknown Lengths and Measures of Similar Triangles**	G-SRT.5	U5-187
	Skill 9: Working With and Simplifying Square Roots Using the Pythagorean Theorem	8.G.7	U5-188
Lesson 5	Proving Theorems About Lines and Angles: Prerequisite Skills		
	Skill 1: Identifying and Labeling Points, Lines, and Angles Using the Addition and Subtraction Properties of Angles	G-CO.1	U5-207
	Skill 2: Setting Up and Solving Linear Equations with a Variable on Both Sides*	8.EE.7b	U5-227
	Skill 3: Applying the Supplement Theorem and Vertical Angles Theorem**	G-CO.9	U5-231
Lesson 6	Proving Theorems About Triangles: Prerequisite Skills		
	<i>E-Skill 10: Classifying Triangles</i>	<i>5.G.4</i>	<i>A-71</i>
	Skill 1: Identifying and Using Vertical Angles, Supplementary Angles, and Complementary Angles to Find Unknown Angle Measures**	G-CO.9	U5-237

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 6, cont.	Skill 2: Applying the Triangle Sum Theorem and the Exterior Angle Theorem to Find Unknown Measures of Triangles**	G–SRT.5	U5-238
	Skill 3: Justifying Congruence of Triangles**	G–SRT.5	U5-239
	Skill 4: Calculating the Midpoint of a Segment**	G–GPE.6	U5-240
	Skill 5: Calculating Slopes of Lines*	8.F.4	U5-241
	Skill 6: Determining If Lines Are Parallel Based on Slopes*	G–GPE.5	U5-247
	Skill 7: Identifying and Determining Perpendicular Bisectors and Angle Bisectors**	G–CO.9	U5-254
	Skill 8: Identifying and Determining Altitudes and Medians of Triangles**	G–CO.10	U5-255
Lesson 7	Proving Theorems About Parallelograms: Prerequisite Skills		
	Skill 1: Applying Angle Relationships in Parallel Lines Intersected by a Transversal**	G–CO.9	U5-261
	Skill 2: Applying Triangle Congruence and Similarity Postulates**	G–SRT.5	U5-262
	Skill 3: Setting Up and Solving Linear Equations*	8.EE.7b	U5-263
	Skill 4: Writing Proofs**	G–CO.11	U5-267
Lesson 8	Exploring Trigonometric Ratios: Prerequisite Skills		
	Skill 1: Measuring Angles with a Protractor	7.G.2	U5-274
	Skill 2: Understanding How to Label Angles and Sides in Triangles	8.G.1b	U5-289
	Skill 3: Converting Fractions into Decimals*	7.EE.3	U5-302
	Skill 4: Solving for One Unknown Number in a Ratio or Proportion*	7.RP.3	U5-308
	Skill 5: Understanding the Properties of Similar Triangles**	G–SRT.2	U5-312
	Skill 6: Understanding and Applying the Properties of Dilations**	G–SRT.1a	U5-313

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 8, <i>cont.</i>	Skill 7: Using the Pythagorean Theorem*	8.G.7	U5-314
	Skill 8: Dividing with Decimals*	6.NS.3	U5-318
Lesson 9	Applying Trigonometric Ratios: Prerequisite Skills		
	Skill 1: Manipulating the Pythagorean Theorem Given Any Two Sides of a Right Triangle*	8.G.7	U5-328
	Skill 2: Identifying the Appropriate Situations in Which to Use Sine, Cosine, or Tangent Based on the Given Information**	G–SRT.7	U5-332
	Skill 3: Identifying and Applying the Reciprocal Trigonometric Identities**	G–SRT.8★	U5-333
	Skill 4: Finding the Values of the Trigonometric Functions If Given an Acute Angle of a Right Triangle**	G–SRT.6	U5-334
	Skill 5: Finding the Measure of an Acute Angle of a Right Triangle If Given the Side Lengths**	G–SRT.8★	U5-335
	Skill 6: Simplifying Complex Fractions*	A–APR.6	U5-336

PROGRAM OVERVIEW

Standards Correlations

Unit 6: Circles With and Without Coordinates			
Lesson	Title	Standard(s)	Pages
Lesson 1	Introducing Circles: Prerequisite Skills		
	<i>E-Skill 5: Adding Two Fractions with Different Denominators</i>	5.NF.1	A-24
	Skill 1: Setting Up and Solving Ratios and Proportions*	7.RP.3	U6-4
	Skill 2: Describing Congruence in Terms of Rigid Motions and Similarity Transformations*	G-CO.6	U6-8
	Skill 3: Understanding Dilations	8.G.3	U6-13
	Skill 4: Setting Up and Solving Equations*	8.EE.7b	U6-32
	Skill 5: Evaluating Expressions*	6.EE.2c	U6-37
	Skill 6: Understanding Central Angles, Inscribed Angles, and Intercepted Arcs**	G-C.2	U6-41
	Skill 7: Understanding Slope, Both Algebraically and Graphically*	8.F.4	U6-42
	Skill 8: Understanding the Relationship Between Perpendicular Lines	G-GPE.5	U6-47
	Skill 9: Understanding How to Write an Equation of a Line Using Point-Slope Form	A-CED.4★	U6-65
	Skill 10: Knowing that the Sum of the Angles of a Triangle Is 180°	7.G.2	U6-80
Skill 11: Performing Calculations Using the Pythagorean Theorem, Including the Distance Formula*	8.G.7	U6-91	
Lesson 2	Inscribed Polygons and Circumscribed Triangles: Prerequisite Skills		
	Skill 1: Understanding Angle Bisectors*	G-CO.12	U6-99
	Skill 2: Finding Measures of Inscribed Angles and/or Their Intercepted Arcs**	G-C.2	U6-103
	Skill 3: Calculating the Supplement of an Angle**	G-CO.9	U6-104
	Skill 4: Understanding the Properties of Special Quadrilaterals**	G-CO.11	U6-105
Lesson 3	Constructing Tangent Lines: Prerequisite Skills		
	Skill 1: Understanding the Relationship of the Slope of Perpendicular Lines*	G-GPE.5	U6-110
	Skill 2: Constructing a Perpendicular Bisector of a Line Segment	G-CO.12	U6-117
Lesson 4	Finding Arc Lengths and Areas of Sectors: Prerequisite Skills		
	Skill 1: Finding the Circumference and Area of a Circle	7.G.4	U6-137
	Skill 2: Understanding Scale Factor in Similar Shapes	7.G.1	U6-149
	Skill 3: Using Ratios and Proportions*	7.RP.3	U6-166

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 5	Explaining and Applying Area and Volume Formulas: Prerequisite Skills		
	Skill 1: Using Formulas for the Areas of Polygons and Circles	7.G.6	U6-174
	Skill 2: Performing Calculations with the Angles in Circles**	G.C.2	U6-187
	Skill 3: Using the Pythagorean Theorem*	8.G.7	U6-188
	Skill 4: Using Ratios of Trigonometry**	G–SRT.8★	U6-193
	Skill 5: Understanding How to Bisect Angles and Side Lengths*	G–CO.12	U6-194
	Skill 6: Understanding and Using Formulas for the Volume of Prisms, Cylinders, Pyramids, Cones, and Spheres	8.G.9	U6-198
	Skill 7: Calculating with Fractions and Decimals*	7.NS.1	U6-212
	Skill 8: Understanding Operations with Exponents*	8.EE.1	U6-217
	Skill 9: Understanding and Applying the Formula for Circumference*	7.G.4	U6-221
Lesson 6	Deriving Equations: Prerequisite Skills		
	Skill 1: Applying the Pythagorean Theorem*	8.G.7	U6-230
	Skill 2: Calculating Horizontal and Vertical Distances in a Coordinate Plane	6.NS.8	U6-234
	Skill 3: Writing Equivalent Forms of Expressions Involving Squares and Square Roots**	N–RN.2	U6-247
	Skill 4: Writing Equivalent Forms of Expressions Involving Perfect Square Trinomials and Other Polynomials**	A–SSE.2	U6-248
	Skill 5: Completing the Square to Form Perfect Square Trinomials**	A–REI.4a	U6-249
	Skill 6: Graphing One-Variable Linear Equations*	A–CED.2★	U6-250
	Skill 7: Applying the Distance Formula*	8.G.8	U6-256
	Skill 8: Simplifying Expressions Involving Squares of Binomials**	A–APR.1	U6-261
Skill 9: Solving Quadratic Equations by Identifying Square Roots**	A–REI.4b	U6-262	

PROGRAM OVERVIEW

Standards Correlations

Lesson	Title	Standard(s)	Pages
Lesson 7	Using Coordinates to Prove Geometric Theorems About Circles and Parabolas: Prerequisite Skills		
	Skill 1: Using Slope to Determine Whether Lines Are Parallel, Perpendicular, or Neither*	G–GPE.5	U6-268
	Skill 2: Identifying Congruent Angle Pairs Formed by Parallel Lines and a Transversal	8.G.5	U6-275
	Skill 3: Simplifying Expressions Involving Square Roots**	N–RN.2	U6-290
	Skill 4: Applying the Standard Form of the Equation of a Circle**	G–GPE.1	U6-291
	Skill 5: Applying the Standard Forms of Equations of Parabolas**	G–GPE.2	U6-292
	Skill 6: Converting Between Different Forms of Equations of Parabolas that Represent Functions**	F–IF.8a	U6-293
	Skill 7: Applying Properties Involving Circles, Tangent Lines, and Inscribed Polygons**	G–C.3	U6-294
	Skill 8: Understanding Function Notation*	F–IF.2	U6-295