Integrated Math III Pacing Guide

Unit 1: Prerequisite Skills

1.1 Common Factoring

1.2 Factoring Polynomials Using the Greatest Common Factor

1.3 Factoring Perfect Square Trinomials

1.4 Factoring Differences of Squares

1.5 Factoring Trinomials

1.6 Solving Equations by Factoring

1.7 Graphing Quadratic Functions

1.8 Graphing Quadratic Functions in Vertex Form

1.9 Solving Quadratics by Completing the Square

1.10 Converting to Vertex Form by Completing the Square

Unit 1 Review

Unit 1 Test

Unit 1 Completion – 12 Days

Unit 2: Triangles Part II

2.1 Triangles and Altitude

2.2 Triangles and Medians

2.3 Triangles and Perpendicular Bisectors

2.4 Triangles and Angle Bisectors

2.5 Solving Systems of Equations by Substitution

2.6 Solving Systems of Equations by Elimination

2.7 The Orthocenter

2.8 Triangles and the Centroid

2.9 Triangles and the Circumcenter

2.10 Triangles and the Incenter

2.11 Linear Programming

Unit 2 Review

Unit 2 Test

Unit 2 Completion – 13 Days

Unit 3: Circles Part II

3.1 Arcs and Chords

3.2 Arcs and Chords Part II

3.3 Arcs and Chords Part III

3.4 Arcs and Chords Part IV

3.5 Inscribed Angles

3.6 Tangents, Secants and Angles

3.7 Tangents, Secants and Angles Part II

3.8 Tangents, Secants and Angles Part III

Unit 3 Review

Unit 3 Test

Unit 3 Completion – 10 Days

Unit 4: Transformations

4.1 Introduction to Transformations

4.2 Domain of Parent Functions

4.3 Range of Parent Functions

4.4 Translations

4.5 Reflections

4.6 Vertical Stretches and Compressions

4.7 Horizontal Stretches and Compressions

4.8 Summary of Transformations

4.9 Multiple Transformations

Unit 4 Review

Unit 4 Test

Unit 4 Completion – 11 Days

Unit 5: Complex Numbers

5.1 Introduction to Imaginary and Complex Numbers

5.2 Adding and Subtracting Complex Numbers

5.3 Multiplying Complex Numbers

5.4 Complex Conjugates

5.5 Dividing Complex Numbers

5.6 Absolute Value and Complex Numbers

5.7 Solving Quadratic Equations with Square Roots

5.8 The Quadratic Formula

Unit 5 Review

Unit 5 Test

Unit 5 Completion – 10 Days

Unit 6: Polynomial Functions

6.1 Introduction to Polynomials

6.2 Adding and Subtracting Polynomials

6.3 Multiplying Polynomials

6.4 Dividing Polynomials Using Long Division

6.5 Dividing Polynomials Using Synthetic Division

6.6 Remainder Theorem

6.7 Factor Theorem

6.8 Factoring Using Sum or Difference of Cubes

Unit 6 Review

Unit 6 Test

Unit 6 Completion – 10 Days

Unit 7: Polynomial Functions – Solving and Graphing

7.1 Finding a Polynomials Given the Roots

7.2 Location Principle and Multiplicity of Zeros

7.3 Rational Root Theorem

7.4 The Complex Conjugate Root Theorem

7.5 The Fundamental Theorem of Algebra

7.6 Graphing the Cubic Function

7.7 Graphing Polynomials

Unit 7 Review

Unit 7 Test

Unit 7 Completion – 9 Days

Midterm

Midterm Exam Review – 3 Days

Midterm Exam – 1 Day

Midterm Exam Completion – 4 Days

Unit 8: Exponential and Logarithmic Functions

8.1 Introduction to Exponential and Logarithmic Functions

8.2 Exponential Growth

8.3 Exponential Decay

8.4 Logarithmic Functions

8.5 Evaluating Logarithmic Functions

8.6 Product Property of Logarithms

8.7 Quotient Property of Logarithms

8.8 Power Property of Logarithms

8.9 The Exponential-Logarithmic Inverse Property

8.10 Applications of Logarithms

8.11 The Natural Exponential Function

8.12 The Natural Logarithm

8.13 Solving Logarithmic Equations

Unit 8 Review

Unit 8 Test

Unit 8 Completion – 15 Days

Unit 9: Rational Functions

9.1 Introduction to Rational Functions

9.2 Direct Variation

9.3 Inverse Variation

9.4 Joint and Combined Variation

9.5 Simplifying Rational Expressions

9.6 Adding and Subtracting Rational Expressions

9.7 Multiplying Rational Expressions

9.8 Dividing Rational Expressions

9.9 Complex Fractions

9.10 Solving Rational Equations

9.11 Graph of a Rational Function

9.12 Graph of a Rational Function Part II

Unit 9 Review

Unit 9 Test

Unit 9 Completion – 14 Days

Unit 10: Radical Functions

10.1 Introduction to Radical Functions

10.2 Simplifying Numerical Radicals

10.3 Simplifying Algebraic Radicals

10.4 Adding and Subtracting Radicals

10.5 Multiplying Radicals

10.6 Dividing Radicals

10.7 Solving Radical Equations

10.8 Graphing Radical Functions

Unit 10 Review

Unit 10 Test

Unit 10 Completion – 10 Days

Unit 11: Conic Sections

11.1 Introduction to Conic Sections

11.2 Distance and Midpoint Formulas

11.3 Parabolas

11.4 Parabolas Part II

11.5 Circles

11.6 Circles Part II

11.7 Ellipses

11.8 Ellipses Part II

11.9 Hyperbolas

11.10 Hyperbolas part II

11.11 Solving Non-Linear Systems

Unit 11 Review

Unit 11 Test

Unit 11 Completion – 13 Days

Unit 12: Trigonometry

12.1 Introduction to Trigonometry

12.2 Finding an Unknown Angle

12.3 Reciprocal Ratios

12.4 Sine Law

12.5 Cosine Law

12.6 Angles in Standard Position

12.7 Special Triangles and Exact Values

Unit 12 Review

Unit 12 Test

Unit 12 Completion – 9 Days

Unit 13: Statistics and Probability

13.1 Introduction to Statistics

13.2 Independent & Dependent Events

13.3 Measures of Central Tendency

13.4 Histograms and Circles Graphs

13.5 Stem and Leaf Plots

13.6 Box and Whisker Plots

13.7 Scatter Plots

13.8 Permutations

13.9 Combinations

13.10 Measures of Dispersion

13.11 Sampling

13.12 Normal Distribution

13.13 Margin of Error

Unit 13 Review

Unit 13 Test

Unit 13 Completion – 15 Days

Unit 14: Series and Patterns

14.1 Introduction to Series and Patterns

14.2 Sequences and Series

14.3 Arithmetic Sequences

14.4 Arithmetic Series

14.5 Geometric Sequences

14.6 Finite Geometric Series

14.7 Infinite Geometric Series

14.8 Pascal's Triangles

14.9 Binomial Theorem

Unit 14 Review

Unit 14 Test

Unit 14 Completion – 11 Days

Final Exam

Final Exam Review – 4 Days

Final Exam – 1 Day

Final Exam Completion – 5 Days

Note: One day is allotted for each lesson, unit test and unit review. Quizzes are to be taken on the same day as the previous lesson.

Total: 171 Days

34.2 five-day weeks or 42.75 four-day weeks