Pacing Guide

Unit 1: Review of Equations

1.1 Introduction to Equations

1.2 Multistep Equations and the Distributive Property

1.3 Multistep Equations and the Distributive Property Part II

1.4 Formulas and Equations with Multiple Variables

1.5 Slope & Rate of Change

1.6 Calculating Slope with Rise/Run

1.7 Calculating Slope with $\Delta y/\Delta x$

1.8 Slope-Intercept Form

1.9 Equation of a Line

Unit 1 Review

Unit 1 Test

Unit 1 Completion – 11 Days

Unit 2: Review of Exponents

2.1 Introduction to Exponents

2.2 Rules of Exponents – The Product Rule

2.3 Rules of Exponents – The Quotient Rule

2.4 Rules of Exponents – Zero and Negative Exponents

2.5 Fractional Exponents

2.6 Exponent Rules – Power of a Power

2.7 Exponent Rules – Power of a Product

2.8 Exponent Rules – Power of a Fraction

2.9 Simplifying Algebraic Expressions with Exponents

Unit 2 Review

Unit 2 Test

Unit 2 Completion – 11 Days

Unit 3: Systems of Equations and Inequalities

3.1 Introduction to Systems of Linear Equations and Inequalities

3.2 Solving Systems of Equations by Substitution

3.3 Solving Systems of Equations by Elimination

3.4 Graphing Systems of Linear Equations

3.5 Graphing Systems of Inequalities

3.6 Linear Programming

Unit 3 Review

Unit 3 Test

Unit 3 Completion – 8 Days

Unit 4: Complex Numbers

4.1 Introduction to Imaginary and Complex Numbers

4.2 Adding and Subtracting Complex Numbers

4.3 Multiplying Complex Numbers

4.4 Complex Conjugates

4.5 Dividing Complex Numbers

4.6 Absolute Value and Complex Numbers

Unit 4 Review

Unit 4 Test

Unit 4 Completion – 8 Days

Unit 5: Functions

5.1 Introduction to Functions

5.2 Function Notation and Evaluation

5.3 Domain of a Function and Interval Notation

5.4 Range of a Function and Interval Notation

5.5 Adding and Subtracting Functions

5.6 Multiplying and Dividing Functions

5.7 Composition of Functions

5.8 Inverse Functions

5.9 Composition and Inverses

5.10 Piecewise Functions

5.11 Step Functions

Unit 5 Review

Unit 5 Test

Unit 5 Completion – 13 Days

Unit 6: Quadratic Functions

6.1 Introduction to Quadratic Functions

6.2 Factoring Using the Greatest Common Factor

6.3 Factoring Using Difference of Squares

6.4 Factoring Perfect Square Trinomials

6.5 Factoring Trinomials

6.6 Solving Quadratics Using Factoring

6.7 Graphing Quadratic Functions in Vertex Form

6.8 Solving Quadratic Equations with Square Roots

6.9 Solving Quadratics by Completing the Square

6.10 Converting to Vertex Form by Completing the Square

6.11 The Quadratic Formula

6.12 Graphing Quadratic Inequalities

6.13 Applications of Quadratics

Unit 6 Review

Unit 6 Test

Unit 6 Completion – 15 Days

Unit 7: Polynomial Functions

7.1 Introduction to Polynomials

7.2 Adding and Subtracting Polynomials

7.3 Multiplying Polynomials

7.4 Dividing Polynomials Using Long Division

7.5 Dividing Polynomials Using Synthetic Division

7.6 Remainder Theorem

7.7 Factor Theorem

7.8 Factoring Using Sum or Difference of Cubes

Unit 7 Review

Unit 7 Test

Unit 7 Completion – 10 Days

Unit 8: Polynomial Functions: Solving and Graphing

8.1 Finding a Polynomial Given the Roots

8.2 Location Principle and Multiplicity of Zeros

8.3 Rational Root Theorem

8.4 The Complex Conjugate Root Theorem

8.5 The Fundamental Theorem of Algebra

8.6 Graphing the Cubic Function

8.7 Graphing Polynomials

Unit 8 Review

Unit 8 Test

Unit 8 Completion – 9 Days

Unit 9: Exponential and Logarithmic Functions

9.1 Introduction to Exponential and Logarithmic Properties

9.2 Exponential Growth

9.3 Exponential Decay

9.4 Logarithmic Functions

9.5 Evaluating Logarithmic Functions

9.6 Product Property of Logarithms

9.7 Quotient Property of Logarithms

9.8 Power Property of Logarithms

9.9 The Exponential-Logarithmic Inverse Property

9.10 Applications of Logarithms

9.11 The Natural Exponential Function

9.12 The Natural Logarithm

9.13 Solving Logarithmic Functions

Unit 9 Review

Unit 9 Test

Unit 9 Completion – 15 Days

Algebra 2 Midterm

Midterm Exam Review – 3 Days

Midterm Exam – 1 Day

Midterm Exam Completion – 4 Days

Unit 10: Rational Functions

10.1 Introduction to Rational Functions

10.2 Direct Variation

10.3 Inverse Variation

10.4 Joint and Combined Variation

10.5 Simplifying Rational Expressions

10.6 Adding and Subtracting Rational Expressions

10.7 Multiplying Rational Expressions

10.8 Dividing Rational Expressions

10.9 Complex Fractions

10.10 Solving Rational Equations

10.11 Graph of a Rational Function

10.12 Graph of a Rational Function Part II

Unit 10 Review

Unit 10 Test

Unit Completion – 14 Days

Unit 11: Radical Functions

11.1 Introduction to Radical Functions

11.2 Simplifying Numerical Radicals

11.3 Simplifying Algebraic Radicals

11.4 Adding and Subtracting Radicals

11.5 Multiplying Radicals

11.6 Dividing Radicals

11.7 Solving Radical Equations

Unit 11 Review

Unit 11 Test

Unit 11 Completion – 9 Days

Unit 12: Conic Sections

12.1 Introduction to Conic Sections

12.2 Distance and Midpoint Formulas

12.3 Parabolas

12.4 Parabolas Part II

12.5 Circles

12.6 Circles Part II

12.7 Ellipses

12.8 Ellipses Part II

12.9 Hyperbolas

12.10 Hyperbolas Part II

12.11 Solving Non-Linear Systems

Unit 12 Review

Unit 12 Test

Unit 12 Completion – 13 Days

Unit 13: Trigonometry

13.1 Introduction to Trigonometry

13.2 Finding an Unknown Angle

13.3 Reciprocal Ratios

13.4 Sine Law

13.5 Cosine Law

13.6 Angles in Standard Position

13.7 Special Triangles and Exact Values

Unit 13 Review

Unit 13 Test

Unit 13 Completion – 9 Days

Unit 14: Statistics and Probability

14.1 Introduction to Statistics

14.2 Independent and Dependent Events

14.3 Measures of Central Tendency

14.4 Histograms and Circle Graphs

14.5 Stem and Leaf Plots

14.6 Box and Whisker Plots

14.7 Scatter Plots

14.8 Permutations

14.9 Combinations

14.10 Measures of Dispersion

Unit 14 Review

Unit 14 Test

Unit 15: Series and Patterns

15.1 Introduction to Series and Patterns

15.2 Sequences and Series

15.3 Arithmetic Sequences

15.4 Arithmetic Series

15.5 Geometric Sequences

15.6 Finite Geometric Series

15.7 Infinite Geometric Series

15.8 Pascal's Triangle

15.9 Binomial Theorem

Unit 15 Review

Unit 15 Test

Unit 15 Completion – 11 Days

Algebra 2 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.

Total: 177 Days

35.4 five-day weeks or 44.25 four-day weeks