Liberal Arts Mathematics 1 Scope and Sequence

Section 1: Solving Equations and Inequalities

- Topic 1: Equations: True or False?
- Topic 2: Identifying Properties When Solving Equations
- Topic 3: Solving Equations
- Topic 4: Solving Equations Using the Zero Product Property
- Topic 5: Solving Inequalities Part 1
- Topic 6: Solving Inequalities Part 2
- Topic 7: Solving Compound Inequalities
- Topic 8: Rearranging Formulas
- Topic 9: Solution Sets to Equations with Two Variables

Section 2: Linear Relationships

- Topic 1: Arithmetic Sequences
- Topic 2: Rate of Change of Linear Functions
- Topic 3: Interpreting Rate of Change and y-intercept in a Real-World Context Part 1
- Topic 4: Interpreting Rate of Change and y-intercept in a Real-World Context Part 2

Section 3: Systems of Equations and Inequalities

- Topic 1: Introduction to Systems of Equations
- Topic 2: Finding Solution Sets to Systems of Equations Using Substitution and Graphing
- Topic 3: Using Equivalent Systems of Equations
- Topic 4: Finding Solution Sets to Systems of Equations Using Elimination
- Topic 5: Solution Sets to Inequalities with Two Variables
- Topic 6: Finding Solution Sets to Systems of Linear Inequalities

Section 4: Operations with Polynomials

- Topic 1: Using Expressions to Represent Real-World Situations
- Topic 2: Understanding Polynomial Expressions
- Topic 3: Algebraic Expressions Using the Distributive Property
- Topic 4: Algebraic Expressions Using the Commutative and Associative Property
- Topic 5: Adding and Subtracting Functions
- Topic 6: Multiplying Functions
- Topic 7: Closure Property
- Topic 8: Properties of Exponents
- Topic 9: Radical Expressions and Expressions with Rational Exponents

- Topic 10: Adding Expressions with Radicals and Rational Exponents
- Topic 11: More Operations with Radicals and Rational Exponents
- Topic 12: Operations with Rational and Irrational Numbers

Section 5: Quadratic Relationships – Part 1

- Topic 1: Real-World Examples of Quadratic Functions
- Topic 2: Factoring Quadratic Expressions
- Topic 3: Solving Quadratic Equations by Factoring
- Topic 4: Solving Other Quadratic Equations by Factoring
- Topic 5: Solving Quadratic Equations by Factoring Special Cases
- Topic 6: Solving Quadratic Equations by Taking Square Roots
- Topic 7: Solving Quadratic Equations by Completing the Square
- Topic 8: Deriving the Quadratic Formula
- Topic 9: Solving Quadratic Equations Using the Quadratic Formula
- Topic 10: Quadratic Functions in Action

Section 6: Quadratic Relationships – Part 2

- Topic 1: Observations from a Graph of a Quadratic Function
- Topic 2: Nature of the Solutions of Quadratic Equations and Functions
- Topic 3: Graphing Quadratic Functions Using a Table
- Topic 4: Graphing Quadratic Functions Using the Vertex and Intercepts
- Topic 5: Graphing Quadratic Functions Using Vertex Form Part 1
- Topic 6: Graphing Quadratic Functions Using Vertex Form Part 2
- Topic 7: Transformations of the Dependent Variable of Quadratic Functions
- Topic 8: Transformations of the Independent Variable of Quadratic Functions
- Topic 9: Finding Solution Sets to Systems of Equations Using Tables of Values and Successive Approximations

Section 7: One-Variable Statistics

- Topic 1: Dot Plots
- Topic 2: Histograms
- Topic 3: Box Plots Part 1
- Topic 4: Box Plots Part 2
- Topic 5: Measures of Center and Shapes of Distributions
- Topic 6: Measures of Spread Part 1
- Topic 7: Measures of Spread Part 2
- Topic 8: The Empirical Rule

Section 8: Two-Variable Statistics Topic 1: Relationship between Two Categorical Variables – Marginal and Joint Relative Frequency Part 1 Topic 2: Relationship between Two Categorical Variables – Marginal and Joint Relative Frequency Part 2 Topic 3: Relationship between Two Categorical Variables – Conditional Frequency Topic 4: Scatter Plots and Function Models Topic 5: Residuals and Residual Plots – Part 1 Topic 6: Residuals and Residual Plots – Part 2 Topic 7: Examining Correlation Section 9: Introduction to Geometry - Points, Lines, and Planes Topic 1: Basics of Geometry – Part 1 Topic 2: Basics of Geometry – Part 2 Topic 3: Midpoint and Distance in the Coordinate Plane – Part 1 Topic 4: Midpoint and Distance in the Coordinate Plane – Part 2 Topic 5: Parallel and Perpendicular Lines – Part 1 Topic 6: Parallel and Perpendicular Lines – Part 2 Topic 7: Basic Constructions – Part 1 Topic 8: Basic Constructions – Part 2 Topic 9: Constructing Perpendicular Bisectors Section 10: Angles and Polygons Topic 1: Introduction to Angles – Part 1 Topic 2: Introduction to Angles – Part 2 Topic 3: Special Types of Angle Pairs Formed by Transversals and Non-Parallel Lines Topic 4: Special Types of Angle Pairs Formed by Transversals and Parallel Lines – Part 1 Topic 5: Special Types of Angle Pairs Formed by Transversals and Parallel Lines – Part 2 Topic 6: Perpendicular Transversals Topic 7: Copying Angles and Constructing Angle Bisectors Topic 8: Introduction to Polygons – Part 1 Topic 9: Introduction to Polygons – Part 2 Topic 10: Angles of Polygons

Topic 11: Symmetries of Regular Polygons

- Topic 12: Congruence and Similarity of Polygons Part 1
- Topic 13: Congruence and Similarity of Polygons Part 2

Section 11: Triangles - Congruence and Similarity

- Topic 1: Triangle Congruence SSS and SAS Part 1
- Topic 2: Triangle Congruence SSS and SAS Part 2
- Topic 3: Triangle Congruence ASA and AAS Part 1
- Topic 4: Triangle Congruence ASA and AAS Part 2
- Topic 5: Base Angle of Isosceles Triangles
- Topic 6: Using Triangle Congruency to Find Missing Variables
- Topic 7: Triangle Similarity Part 1
- Topic 8: Triangle Similarity Part 2
- Topic 9: The Pythagorean Theorem
- Topic 10: Right Triangle Similarity Part 1
- Topic 11: Right Triangle Similarity Part 2

Section 12: Quadrilaterals - Part 1

- Topic 1: Introduction to Quadrilaterals Part 1
- Topic 2: Introduction to Quadrilaterals Part 2
- Topic 3: Introduction to Quadrilaterals Part 3
- Topic 4: Parallelograms Part 1
- Topic 5: Parallelograms Part 2
- Topic 6: Rectangles and Squares Part 1
- Topic 7: Rectangles and Squares Part 2

Section 13: Quadrilaterals - Part 2

- Topic 1: Rhombi
- Topic 2: Kites
- Topic 3: Trapezoids
- Topic 4: Midsegment of Trapezoids
- Topic 5: Quadrilaterals in Coordinate Geometry Part 1
- Topic 6: Quadrilaterals in Coordinate Geometry Part 2
- Topic 7: Constructions of Quadrilaterals