Secondary II Possible Sequence <DRAFT>

The Utah State Office of Education does not prescribe a particular order for the content of Secondary II. The following sequence is merely a suggestion based on early thinking regarding the development of a Secondary II textbook. Local education agencies should feel free to adapt and sequence the order to maximize the use of existing resources. Care must be taken throughout to build reasonable learning trajectories, make mathematical connections where appropriate, and build on prior understanding of material.

Quadratic Functions and Modeling
Clusters
Interpret (quadratic) functions that arise in applications in terms of a context.
Analyze functions using different representations.
Build a function that models a relationship between two quantities.
Build new functions from existing functions.
Construct and compare linear, quadratic, and exponential models and solve problems.

Quadratic Equations
Clusters
Interpret the structure of expressions.
Create equations that describe numbers or relationships.
Write expressions in equivalent forms to solve problems.
Solve equations and inequalities in one variable.
Perform arithmetic operations with complex numbers.
Use complex numbers in polynomial identities and equations.
Solve systems of equations.

Extending the Number System
Clusters
Extend the properties of exponents to rational exponents.
Use properties of rational and irrational numbers.
Perform arithmetic operations on polynomials.

Similarity
Clusters
Use coordinates to prove simple geometric theorems algebraically.
Understand similarity in terms of similarity transformations.
Prove geometric theorems.
Prove theorems involving similarity.

Trigonometry
Clusters
Define trigonometric ratios and solve problems involving right triangles.
Prove and apply trigonometric identities.

Circles and Conics

Clusters

Understand and apply theorems about circles.
Use coordinates to prove simple geometric theorems algebraically.
Find arc lengths and sectors of circles.
Explain volume formulas and use them to solve problems.
Translate between the geometric description and the equation for a conic section.

Probability

Clusters

Understand independence and conditional probability and use them to interpret data.
Use the rules of probability to compute probabilities of compound events in a uniform probability model.