

Secondary Mathematics 3 Scope and Sequence **DRAFT 4/11/2014**

Polynomials (10 days)

Unit 2 Cluster 4: Perform arithmetic operations on polynomials (A.APR.1)

Unit 2 Cluster 5: Understand the relationship between zeros and factors of polynomials (A.APR.2, A.APR.3, N.CN.9, and F.IF.7c)

Unit 2 Cluster 6: Use polynomial identities to solve problems (A.APR.4, A.APR.5, and N.CN.8)

Series (1 day, 2 days honors)

Unit 2 Cluster 3: Using the sum of a geometric series (A.SSE.4, *finite arithmetic series, infinite geometric series honors*)

Rational and Radical Expressions and Equations (6 days)

Unit 2 Cluster 7: Rewrite rational expressions (A.APR.6 and A.APR.7)

Unit 2 Cluster 8: Solve simple rational and radical equations in one variable (A.REI.2)

Benchmark #1: Suggested time for giving October 28-31; due to the district by December 1

Graphing Functions (7 days, 9 days honors)

Unit 4 Clusters 3 and 5: Graphing functions and transformation of functions (F.IF.7b, F.IF.7e, F.BF.3)

Unit 4 Cluster 3 HONORS: Graphing rational functions (F.IF.7d)

Unit 4 Cluster 2: Key features of graphs (F.IF.4, F.IF.5)

Unit 4 Cluster 3: Comparing properties of functions (F.IF.9)

Unit 4 Cluster 2: Average rate of change (F.IF.6)

Unit 2 Cluster 9: Solve systems of equations graphically (A.REI.11)

Solving Equations and Inequalities (5 days)

Unit 4 Cluster 1: Create equations that describe numbers or relationships in one variable (A.CED.1, A.CED.4, and A.SSE.2)

Unit 4 Cluster 2: Create equations and inequalities in two variables (A.CED.2 and A.CED.3)

Building Functions (3 days, 5 days honors)

Unit 4 Cluster 4: Combining functions using arithmetic operations (F.BF.1, *F.BF.1c honors*)

Unit 4 Cluster 5: Inverse Functions (F.BF.4, *F.BF.4b, F.BF.4c, F.BF.4d honors*)

Benchmark #2: Suggested time for giving January 16-22, due to the district by March 2

Logarithms (8 days)

Unit 4 Cluster 6: Rewrite exponential equations using logarithms, evaluate logarithms (F.LE.4)

Unit 4 Cluster 6: Solve problems with logarithms (F.LE.4)

Trigonometry (10 days)

Unit 3 Cluster 1: Apply trigonometry to general triangles (area of a non right triangle, law of sines, law of cosines) (G.SRT.9, G.SRT.10, G.SRT.11)

Unit 3 Cluster 2: Extend the domain of trigonometric functions using the unit circle (F.TF.1, F.TF.2, F.TF.3)

Unit 3 Cluster 3: Model periodic phenomena with trigonometric functions (F.TF.5)

Honors (F.TF.4)

Honors (F.TF.6, F.TF.7 and finding all solutions to trigonometric equations)

Benchmark #3: Suggested time for giving March 23-26; due to the district by May 4

Polar and Parametric (Honors) (5 days)

Define and use polar coordinates and relate them to Cartesian coordinates

Represent complex numbers in rectangular and polar form, and convert between the two

Translate equations in Cartesian coordinates into polar coordinates and then graph them in the polar coordinate plane

Multiply complex numbers in polar form and use DeMoivre's Theorem to find roots of complex numbers

Define a curve parametrically and draw parametric graphs

Geometry (5 days)

Unit 4 Cluster 7: Relationships between two-dimensional and three-dimensional objects (G.GMD.4)

Unit 4 Cluster 8: Apply geometric concepts in modeling situations (G.MG.1, G.MG.2, G.MG.3)

Statistics

Unit 1 Cluster 2: Understand and evaluate random processes underlying statistical experiments (S.IC.1, S.IC.2)

Unit 1 Cluster 3: Make inferences and justify conclusions from sample surveys, experiments, and observational studies (S.IC.3, S.IC.6)

Unit 1 Cluster 1: Summarize, represent, and interpret data on a single count or measurement variable (S.ID.4)

Unit 1 Cluster 3: Make inferences and justify conclusions from sample surveys, experiments, and observational studies (S.IC.4, S.IC.5)

Benchmark #4: suggested time for giving May 26-May 29; due to the district by June 4

Note: A.SSE.1 and F.BF.8 are taught throughout whenever functions are rewritten to discover properties about the function.