

**CCSS Integrated Pathway Honors Supplement for Mathematics I, II, and III
Content Map**

Topic 1: Matrices and Vectors			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	1.1	Operations with Matrices	N-VM.7 (+) N-VM.8 (+) N-VM.9 (+)
Lesson 2	1.2	Using Operations on Matrices	N-VM.6 (+) N-VM.12 (+)
Lesson 3	1.3	Representing and Modeling with Vector Quantities	N-VM.1 (+) N-VM.2 (+) N-VM.3 (+)
Lesson 4	1.4	Performing Operations on Vectors	N-VM.4 (+) N-VM.5 (+)
Lesson 5	1.5	Zero, Identity, Inverse, and Transformation Matrices	N-VM.10 (+) N-VM.11 (+)
Topic 1 Extension Activity		Computer Animation with Matrices	N-VM.6 (+) N-VM.7 (+) N-VM.8 (+) N-VM.9 (+) N-VM.12 (+)
Topic 2: Probability Distributions			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	2.1	Creating Graphs of Probability Distributions	S-MD.1* (+)
Lesson 2	2.2	Expected Value	S-MD.2* (+)
Lesson 3	2.3	Developing Probability Distributions	S-MD.3* (+) S-MD.4* (+)
Lesson 4	2.4	Using Probability Distributions to Evaluate Outcomes	S-MD.5a* (+) S-MD.5b* (+)
Topic 2 Extension Activity		Playing Roulette	S-MD.2* (+) S-MD.3* (+) S-MD.5a* (+) S-MD.5b* (+)

Topic 3: Using Matrices to Solve Systems of Equations			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	3.1	Representing a System of Linear Equations as a Single Matrix Equation	A-REI.8 (+)
Lesson 2	3.2	Finding the Inverse of a Matrix and Using It to Solve a System of Equations	A-REI.9 (+)
Topic 3 Extension Activity		Problem Solving with Matrices	A-REI.8 (+) A-REI.9 (+)
Topic 4: Complex Numbers			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	4.1	Finding the Complex Conjugate	N-CN.3 (+)
Lesson 2	4.2	Representing Complex Numbers and Their Operations on the Complex Plane	N-CN.4 (+) N-CN.5 (+) N-CN.6 (+)
Topic 4 Extension Activity		Julia Sets and Fractals	N-CN.4 (+) N-CN.5 (+) N-CN.6 (+)
Topic 5: Conic Sections			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	5.1	Equations for Ellipses and Hyperbolas	G-GPE.3 (+)
Topic 5 Extension Activity		Conics Through Paper Folding	G-GPE.3 (+)
Topic 6: Cavalieri's Principle			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	6.1	Cavalieri's Principle	G-GMD.2 (+) G-GMD.3 (+)
Topic 6 Extension Activity		Packaging Concerns	G-GMD.2 (+)

Topic 7: Rational Functions			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	7.1	Graphing Rational Functions and Identifying Key Features	F–IF.7d★ (+)
Topic 7 Extension Activity		Milk Cartons	F–IF.7d★ (+)
Topic 8: Building Functions			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	8.1	Composition of Functions	F–BF.1c★ (+)
Lesson 2	8.2	Verifying Function Inverses by Composition	F–BF.4b (+)
Lesson 3	8.3	Finding Inverse Functions in Various Forms	F–BF.4c (+)
Lesson 4	8.4	Inverses of Exponential and Logarithmic Functions	F–BF.5 (+)
Topic 8 Extension Activity		Exploring Group Theory	F–BF.1c★ (+) F–BF.4c (+) F–BF.5 (+)
Topic 9: Trigonometry			
Lesson	Lesson number	Title	Standard(s)
Lesson 1	9.1	Proving Trigonometric Identities	F–TF (+)
Lesson 2	9.2	Proving the Addition and Subtraction Formulas	F–TF.9 (+)
Lesson 3	9.3	Symmetry, Periodicity, and Infinite Domain of Trigonometric Functions	F–TF.3 (+) F–TF.4 (+)
Lesson 4	9.4	Restricting the Domain to Find Inverse Trigonometric Functions	F–BF.4d (+) F–TF.6 (+)
Lesson 5	9.5	Using Inverse Trigonometric Functions to Solve Problems	F–TF.7★ (+)
Topic 9 Extension Activity		Modeling Climate	F–BF.4d (+) F–TF.3 (+) F–TF.6 (+) F–TF.7★ (+)