TN Core INTEGRATED MATH II CONTENT MAP

Unit 1: Extending the Number System			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson1	**Working with the Number System**		
	1.1.1	Defining, Rewriting, and Evaluating Rational Exponents	N–RN.1 N–RN.2
	1.1.2	Rational and Irrational Numbers and Their Properties	N–RN.2 N–RN.3
Lesson 2	**Operating with Polynomials**		
	1.2.1	Adding and Subtracting Polynomials	A–APR.1
	1.2.2	Multiplying Polynomials	A–APR.1
Lesson 3	**Operating with Complex Numbers**		
	1.3.1	Defining Complex Numbers, i, and i^2	N–CN.1
	1.3.2	Adding and Subtracting Complex Numbers	N–CN.2
	1.3.3	Multiplying Complex Numbers	N–CN.2
Unit 2: Quadratic Functions and Modeling			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Analyzing Quadratic Functions**		
	2.1.1	Graphing Quadratic Functions	F–IF.7a★
	2.1.2	Interpreting Various Forms of Quadratic Functions	F–IF.7a★ F–IF.8a
Lesson 2	**Interpreting Quadratic Functions**		
	2.2.1	Interpreting Key Features of Quadratic Functions	F–IF.4★
	2.2.2	Identifying the Domain of a Quadratic Function	F–IF.5★
	2.2.3	Identifying the Average Rate of Change	F–IF.6★
Lesson 3	**Building Functions**		
	2.3.1	Building Functions from Context	F–BF.1a★
	2.3.2	Operating on Functions	F–BF.1b★
Lesson 4	**Graphing Other Functions**		
	2.4.1	Square Root and Cube Root Functions	F–IF.7b★
	2.4.2	Absolute Value and Step Functions	F–IF.7b★
	2.4.3	Piecewise Functions	F–IF.7b★
Lesson 5	**Analyzing Functions**		
	2.5.1	Analyzing Exponential Functions	F–IF.7e F–IF.8b
	2.5.2	Fitting Functions	S–ID.6a S–ID.6b
	2.5.3	Comparing Properties of Functions Given in Different Forms	F–IF.9 *F–LE.3*★

Lesson 6	**Transforming Functions**		
	2.6.1	Replacing $f(x)$ with $f(x) + k$ and $f(x + k)$	F–BF.3
Lesson 7	2.6.2	Replacing $f(x)$ with $k \bullet f(x)$ and $f(k \bullet x)$	F–BF.3
	Finding Inverse Functions		
	2.7.1	Finding Inverse Functions	*F–BF.4a*
Unit 3: Expressions and Equations			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Interpreting Structure in Expressions**		
	3.1.1	Identifying Terms, Factors, and Coefficients	*A–SSE.1a*★
	3.1.2	Interpreting Complicated Expressions	A–SSE.1b★
Lesson 2	**Creating and Solving Quadratic Equations in One Variable**		
	3.2.1	Taking the Square Root of Both Sides	A–CED.1★ A–REI.1 A–REI.4b
	3.2.2	Factoring	A–SSE.2 A–CED.1★ A–REI.1 A–REI.4b
	3.2.3	Completing the Square	A–SSE.2 A–CED.1★ A–REI.1 A–REI.4a A–REI.4b
	3.2.4	Applying the Quadratic Formula	A–CED.1★ A–REI.1 A–REI.4a A–REI.4b
	3.2.5	Solving Quadratic Inequalities	A–SSE.2 A–CED.1★ A–REI.1 A–REI.4b
Lesson 3	**Creating Quadratic Equations in Two or More Variables**		
	3.3.1	Creating and Graphing Equations Using Standard Form	A–SSE.3a★ A–CED.2★
	3.3.2	Creating and Graphing Equations Using the x-intercepts	A–SSE.3a★ A–CED.2★
	3.3.3	Creating and Graphing Equations Using Vertex Form	A–SSE.3b★ A–CED.2★
	3.3.4	Rearranging Formulas	A–CED.4★

Lesson 4	**Fundamental Theorem of Algebra**		
	3.4.1	Extending Polynomial Identities to Include Complex Numbers	*N–CN.8 (+)*
	3.4.2	Solving Quadratic Equations with Complex Solutions	N–CN.7 *N–CN.9 (+)*
Lesson 5	**Rational Equations**		
	3.5.1	Creating Rational Equations	A–CED.1★ N–Q.2★
	3.5.2	Graphing Rational Equations	A–CED.2★ N–Q.2★
	3.5.3	Creating Rational Inequalities	A–CED.1★ N–Q.2★
Lesson 6	**Writing Exponential Expressions in Equivalent Forms**		
	3.6.1	Writing Exponential Expressions in Equivalent Forms	*A–SSE.3c*★
Lesson 7	**Solving Systems of Equations**		
	3.7.1	Solving Systems Graphically	A–REI.1 A–REI.7
	3.7.2	Solving Systems Algebraically	A–REI.1 A–REI.7

Unit 4: Applications of Probability

Lesson	Sub-lesson number	Title	Standard(s)
Lesson 1	**Events**		
	4.1.1	Describing Events	S–CP.1★
	4.1.2	The Addition Rule	S–CP.7★
	4.1.3	Understanding Independent Events	S–CP.2★
Lesson 2	**Conditional Probability**		
	4.2.1	Introducing Conditional Probability	S–CP.3★ S–CP.5★ S–CP.6★
	4.2.2	Using Two-Way Frequency Tables	S–CP.4★ S–CP.5★ S–CP.6★
	4.2.3	The Multiplication Rule	*S–CP.8★ (+)*
Lesson 3	**Combinatorics**		
	4.3.1	Combinations and Permutations	*S–CP.9★ (+)*
	4.3.2	Probability with Combinatorics	*S–CP.9★ (+)*
Lesson 4	**Making and Analyzing Decisions**		
	4.4.1	Making Decisions	*S–MD.6★ (+)*
	4.4.2	Analyzing Decisions	*S–MD.7★ (+)*

Unit 5: Similarity and Right Triangle Trigonometry			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Investigating Properties of Dilations**		
	5.1.1	Investigating Properties of Parallelism and the Center	G–SRT.1a
	5.1.2	Investigating Scale Factors	G–SRT.1b
Lesson 2	**Defining and Applying Similarity**		
	5.2.1	Defining Similarity	G–SRT.2
	5.2.2	Applying Similarity Using the Angle-Angle (AA) Criterion	G–SRT.3
Lesson 3	**Proving Similarity**		
	5.3.1	Proving Triangle Similarity Using Side-Angle-Side (SAS) and Side-Side-Side (SSS) Similarity	G–SRT.4
	5.3.2	Working with Ratio Segments	G–SRT.4
	5.3.3	Proving the Pythagorean Theorem Using Similarity	G–SRT.4
	5.3.4	Solving Problems Using Similarity and Congruence	G–SRT.5
Lesson 4	**Exploring Trigonometric Ratios**		
	5.4.1	Defining Trigonometric Ratios	G–SRT.6
	5.4.2	Exploring Sine and Cosine As Complements	G–SRT.7
Lesson 5	**Applying Trigonometric Ratios**		
	5.5.1	Calculating Sine, Cosine, and Tangent	G–SRT.8★
	5.5.2	Calculating Cosecant, Secant, and Cotangent	G–SRT.8★
	5.5.3	Problem Solving with the Pythagorean Theorem and Trigonometry	G–SRT.8★
Unit 6: Area and Volume			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Explaining and Applying Area and Volume Formulas**		
	6.1.1	Circumference and Area of a Circle	G–GMD.1
	6.1.2	Volumes of Cylinders, Pyramids, Cones, and Spheres	G–GMD.1 G–GMD.3★