

## TN Core INTEGRATED MATH III CONTENT MAP

Unit 1: Inferences and Conclusions from Data			
Lesson	Sub-lesson number	Title	Standard(s)
<b>Lesson 1</b>	<b>Using the Normal Curve</b>		
	1.1.1	Normal Distributions and the 68–95–99.7 Rule	S-ID.4★
	1.1.2	Standard Normal Calculations	S-ID.4★
	1.1.3	Assessing Normality	S-ID.4★
<b>Lesson 2</b>	<b>Populations Versus Random Samples and Random Sampling</b>		
	1.2.1	Differences Between Populations and Samples	S-IC.1★
	1.2.2	Simple Random Sampling	S-IC.2★
	1.2.3	Other Methods of Random Sampling	S-IC.2★
<b>Lesson 3</b>	<b>Surveys, Experiments, and Observational Studies</b>		
	1.3.1	Identifying Surveys, Experiments, and Observational Studies	S-IC.3★
	1.3.2	Designing Surveys, Experiments, and Observational Studies	S-IC.3★
<b>Lesson 4</b>	<b>Estimating Sample Proportions and Sample Means</b>		
	1.4.1	Estimating Sample Proportions	S-IC.4★
	1.4.2	The Binomial Distribution	S-IC.4★
	1.4.3	Estimating Sample Means	S-IC.4★
	1.4.4	Estimating with Confidence	S-IC.4★
<b>Lesson 5</b>	<b>Comparing Treatments and Reading Reports</b>		
	1.5.1	Evaluating Treatments	S-IC.5★
	1.5.2	Designing and Simulating Treatments	S-IC.5★
	1.5.3	Reading Reports	S-IC.6★
<b>Lesson 6</b>	<b>Making and Analyzing Decisions</b>		
	1.6.1	Making Decisions	S-MD.6★ (+)
	1.6.2	Analyzing Decisions	S-MD.7★ (+)
Unit 2A: Polynomial Relationships			
Lesson	Sub-lesson number	Title	Standard(s)
<b>Lesson 1</b>	<b>Polynomial Structures and Operating with Polynomials</b>		
	2A.1.1	Structures of Expressions	A-SSE.1a★
	2A.1.2	Adding and Subtracting Polynomials	A-APR.1
	2A.1.3	Multiplying Polynomials	A-APR.1

<b>Lesson 2</b>	<b>Proving Identities</b>		
	2A.2.1	Polynomial Identities	A-SSE.1b★ A-SSE.2 A-APR.4
	2A.2.2	Complex Polynomial Identities	N-CN.8 (+) A-SSE.1b★ A-SSE.2 A-APR.4
	2A.2.3	The Binomial Theorem	A-SSE.1a★ A-SSE.1b★ A-SSE.2 A-APR.4 A-APR.5 (+)
<b>Lesson 3</b>	<b>Graphing Polynomial Functions</b>		
	2A.3.1	Describing End Behavior and Turns	F-IF.7c★
	2A.3.2	The Remainder Theorem	A-APR.2
	2A.3.3	Finding Zeros	A-APR.3 N-CN.9 (+) F-IF.7c★
	2A.3.4	The Rational Root Theorem	A-APR.3
<b>Lesson 4</b>	<b>Solving Systems of Equations with Polynomials</b>		
	2A.4.1	Solving Systems of Equations Graphically	A-REI.11★
<b>Lesson 5</b>	<b>Geometric Series</b>		
	2A.5.1	Geometric Sequences	A-SSE.4★
	2A.5.2	Sum of a Finite Geometric Series	A-SSE.4★
	2A.5.3	Sum of an Infinite Geometric Series	A-SSE.4★
<b>Unit 2B: Rational and Radical Relationships</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Operating with Rational Expressions</b>		
	2B.1.1	Structures of Rational Expressions	A-SSE.1a★ A-SSE.1b★ A-SSE.2
	2B.1.2	Adding and Subtracting Rational Expressions	A-APR.7 (+) A-SSE.2
	2B.1.3	Multiplying Rational Expressions	A-APR.7 (+) A-SSE.2
	2B.1.4	Dividing Rational Expressions	A-APR.6 A-APR.7 (+) A-SSE.2

<b>Lesson 2</b>	<b>Solving Rational and Radical Equations</b>		
	2B.2.1	Solving Rational Equations	A-REI.1 A-REI.2
	2B.2.2	Solving Radical Equations	A-REI.1 A-REI.2
	2B.2.3	Solving Systems of Equations	A-REI.11*
<b>Unit 3: Trigonometry of General Triangles and Trigonometric Functions</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Radians and the Unit Circle</b>		
	3.1.1	Radians	F-TF.1 F-TF.2
	3.1.2	The Unit Circle	F-TF.2
	3.1.3	Special Angles in the Unit Circle	F-TF.2
	3.1.4	Evaluating Trigonometric Functions	F-TF.2
	3.1.5	Proving the Pythagorean Identity	F-TF.8
<b>Lesson 2</b>	<b>Trigonometry of General Angles</b>		
	3.2.1	Proving the Law of Sines	<i>G-SRT.9 (+)</i> <i>G-SRT.10 (+)</i>
	3.2.2	Proving the Law of Cosines	<i>G-SRT.10 (+)</i>
	3.2.3	Applying the Laws of Sines and Cosines	<i>G-SRT.11 (+)</i>
<b>Lesson 3</b>	<b>Graphs of Trigonometric Functions</b>		
	3.3.1	Periodic Phenomena and Amplitude, Frequency, and Midline	F-TF.5*
	3.3.2	Using Trigonometric Functions to Model Periodic Phenomena	F-TF.5*
<b>Unit 4A: Mathematical Modeling of Inverse, Logarithmic, and Trigonometric Functions</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Inverses of Functions</b>		
	4A.1.1	Determining Inverses of Quadratic Functions	F-BF.4a
	4A.1.2	Determining Inverses of Other Functions	F-BF.4a
<b>Lesson 2</b>	<b>Modeling Logarithmic Functions</b>		
	4A.2.1	Logarithmic Functions as Inverses	F-BF.4a F-LE.4*
	4A.2.2	Common Logarithms	<i>F-IF.8</i> F-LE.4*
	4A.2.3	Natural Logarithms	<i>F-IF.8</i> F-LE.4*
	4A.2.4	Graphing Logarithmic Functions	F-IF.7e*
	4A.2.5	Interpreting Logarithmic Models	F-IF.4* <i>F-IF.5*</i> F-IF.6*

<b>Lesson 3</b>	<b>Modeling Trigonometric Functions</b>		
	4A.3.1	Graphing the Sine Function	F-IF.7e★
	4A.3.2	Graphing the Cosine Function	F-IF.7e★
<b>Unit 4B: Mathematical Modeling and Choosing a Model</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Creating Equations</b>		
	4B.1.1	Creating Equations in One Variable	A-CED.1
	4B.1.2	Creating Constraints	A-CED.3
	4B.1.3	Rearranging Formulas	A-CED.4
<b>Lesson 2</b>	<b>Transforming a Model and Combining Functions</b>		
	4B.2.1	Transformations of Parent Graphs	F-BF.3
	4B.2.2	Recognizing Odd and Even Functions	F-BF.3
	4B.2.3	Combining Functions	F-BF.1b★
<b>Lesson 3</b>	<b>Comparing Properties Within and Between Functions</b>		
	4B.3.1	Reading and Identifying Key Features of Real-World Situation Graphs	F-IF.4★ F-IF.5★ F-IF.6★
	4B.3.2	Calculating Average Rates of Change	F-IF.6★
	4B.3.3	Comparing Functions	F-IF.6★ F-IF.9
<b>Lesson 4</b>	<b>Choosing a Model</b>		
	4B.4.1	Linear, Exponential, and Quadratic Functions	N-Q.2★ A-CED.2 F-IF.4★ F-IF.5★
	4B.4.2	Piecewise, Step, and Absolute Value Functions	N-Q.2★ F-IF.4★ F-IF.5★ F-IF.7b★
	4B.4.3	Square Root and Cube Root Functions	N-Q.2★ F-IF.4★ F-IF.5★ F-IF.7b★
	4B.4.4	Fitting Functions	S-ID.6a★ S-ID.6b★

<b>Lesson 5</b>	<b>Geometric Modeling</b>		
	4B.5.1	Two-Dimensional Cross Sections of Three-Dimensional Objects	G–GMD.4 G–MG.1★
	4B.5.2	Density	G–MG.2★
	4B.5.3	Design	G–MG.3★
<b>Unit 5: Connecting Algebra and Geometry</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Constructing Lines, Segments, and Angles</b>		
	5.1.1	Copying Segments and Angles	G–CO.12
	5.1.2	Bisecting Segments and Angles	G–CO.12
	5.1.3	Constructing Perpendicular and Parallel Lines	G–CO.12
<b>Lesson 2</b>	<b>Constructing Polygons</b>		
	5.2.1	Constructing Equilateral Triangles Inscribed in Circles	G–CO.13
	5.2.2	Constructing Squares Inscribed in Circles	G–CO.13
	5.2.3	Constructing Regular Hexagons Inscribed in Circles	G–CO.13
<b>Lesson 3</b>	<b>Introducing Circles</b>		
	5.3.1	Similar Circles and Central and Inscribed Angles	G–C.1 G–C.2
	5.3.2	Chord Central Angles Conjecture	G–C.2
	5.3.3	Properties of Tangents of a Circle	G–C.2
<b>Lesson 4</b>	<b>Inscribed Polygons and Circumscribed Triangles</b>		
	5.4.1	Constructing Inscribed Circles	G–C.3
	5.4.2	Constructing Circumscribed Circles	G–C.3
	5.4.3	Proving Properties of Inscribed Quadrilaterals	G–C.3
<b>Lesson 5</b>	<b>Finding Arc Lengths and Areas of Sectors</b>		
	5.5.1	Defining Radians	G–C.5
	5.5.2	Deriving the Formula for the Area of a Sector	G–C.5
<b>Lesson 6</b>	<b>Deriving Equations</b>		
	5.6.1	Deriving the Equation of a Circle	G–GPE.1
	5.6.2	Deriving the Equation of a Parabola	G–GPE.2
<b>Lesson 7</b>	<b>Slope and Distance</b>		
	5.7.1	Using Coordinates to Prove Geometric Theorems with Slope and Distance	G–GPE.4 G–GPE.5
	5.7.2	Working with Parallel and Perpendicular Lines	G–GPE.5
<b>Lesson 8</b>	<b>Lines and Segments</b>		
	5.8.1	Midpoints and Other Points on Line Segments	G–GPE.6
	5.8.2	Calculating Perimeter and Area	G–GPE.7★