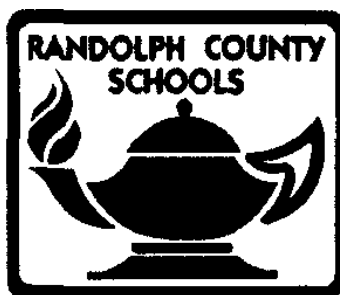


Math III Pacing Guide



Suggested Timeline

Math 3

Part 1

Unit 1:	Numbers	1 Week
Unit 2:	Quadratic Functions and Equations	1.5 Weeks
Unit 3:	Polynomial Functions	1.5 Weeks
Unit 4:	Radicals and Inverses	1 Week
Unit 5:	Rational Expressions and Equations	1.5 Weeks
Unit 6:	Exponential and Log Functions	<u>1 Week</u>
		7.5 Weeks

Part 2

Unit 7:	Sequences and Series	1 Week
Unit 8 & 12:	Conic Sections and Circles	2.75 Weeks
Unit 9:	Probability and Statistics	1 Week
Unit 10:	Congruence	2 Weeks
Unit 11:	Similarity, Right Triangles	1 Week
Unit 13:	Trigonometry	<u>1 Week</u>
		8.75 Weeks

Unit 14 : Modeling

Modeling All Functions 1 Week

Compounded Interest, Continuously Compounded Interest

Focus and Directrix of Parabola

Total: 17.25 Weeks

Math III Curriculum Guide (Revised June 12, 2013)

Units		Textbook	Standards
		Algebra 2 Text	
Unit 1: Numbers			
1. Real Numbers	Properties	1.2, CC-1	N.RN.3
2. Radicals	Simplify (no variables), operations, rationalizing	6.1	A.SSE.2
3. Rational Exponents		6.4	N.RN.1 / N.RN.2
4. Complex Numbers	Identify, operations, conjugates (do not solve quadratics yet)	4.8	N.CN.1 / N.CN.2 / N.CN.7 / N.CN.8
Unit 2: Quadratic Functions and Equations			
1. Relations and Functions		2.1	F.IF.1 / F.IF.2
2. Properties of a Quadratic function	Identify pieces and parts of quadratic. (Don't focus on transformations) Graph with and without a calculator.	4.1 & 4.2	A.CED.2 / F.IF.4 / F.BF.3 / F.IF.8
3. Factoring Quadratic Expressions	All types	4.4	A.SSE.2
4. Solve quadratic equations by factoring and graphing	Demonstrate by factoring but include those that don't factor. (Honors: Fundamental Theorem of Algebra)	4.5	A.CED.1, A.APR.3 (N.CN.9)
5. Solve quadratic equations by completing the square.	Include complex solutions and relate back to graphing.	4.6 & 4.8	A.REI.1/ A.REI.4a/ A.REI.4b / A.SSE.3
6. Solve quadratic equations by quadratic formula and graphing.	Include complex solutions and relate back to graphing.	4.7 & 4.8	A.REI.4b/ F.IF.9
7. Model quadratics		4.3	
Unit 3: Polynomial Functions			
1. Properties of Polynomial Functions	Degree, end behavior, rel. max & min. / multiplicity, zeros, fundamental theorem of algebra / even & odd functions (not degree)	5.1, 5.2, 5.6 supplement	A.SSE.1 / A.SSE.1a / F.IF.4 / F.IF.7 / F.IF.7c/ N.CN.9
2. Solve polynomial equations	Factoring (cubes / grouping), graphing	5.3	A.REI.1/ A.SSE.2 / A.REI.11
3. Dividing Polynomials	Synthetic and long division, remainder theorem	5.4	A.APR.1 / A.APR.2 / A.APR.4/ A.APR.6
4. Construct Polynomials from zeros	Conjugate Root Theorem	5.5, CC-3	N.CN.7/ N.CN.8/ A.APR.3

5. Modeling Polynomials		5.8	F.IF.4 / F.IF.5/ F.IF.9
Unit 4: Radicals and Inverses of functions			
1. Solving Radical / Rational Exponent Equations	Check for extraneous solutions	6.5	A.REI.1/ A.REI.2
2. Finding inverses of relations and functions		6.7	F.BF.4 / F.BF.4a
Unit 5: Rational Expressions and Equations			
1. Simplify	By factoring...state restrictions	8.4	A.SSE.1/ A.SSE.1a/ A.SSE.1b/ A.SSE.2
2. Multiplying and Dividing		8.4	A.SSE.1/ A.SSE.1a/ A.SSE.1b/ A.SSE.2
3. Adding and Subtracting (honors)		8.5	A.APR.6
4. Solving Rational Equations	Solve by hand and with calculator. Check for extraneous solutions.	8.6	A.APR.6/ A.APR.7/ A.CED.1/ A.REI.2/ A.REI.11
Unit 6: Exponential and Logarithmic Functions			
1. Logs as inverses	Convert between logs and exponents. Include graphing	7.3	A.SSE.1/ A.SSE.1b/ A.CED.2/ F.IF.7/ F.IF.7e/ F.IF.8/ F.BF.4/ F.BF.4a
2. Solving Logs and Natural Log Equations	Only solve equations that do not involve properties (Single log equations)	7.5 & 7.6	A.REI.1/ A.REI.11/ F.LE.3/ F.LE.4
Unit 7: Sequences and Series			
1. Arithmetic Sequences	Include recursive and explicit formulas	9.2 & 9.1 vocabulary	F.BF.1/ F.BF.2
2. Geometric Sequences	Include recursive and explicit formulas	9.3	F.BF.1/ F.BF.2
3. Geometric Series	Ex. Mortgage payments	9.5	A.SSE.4
Unit 8 and Unit 12 Conic Sections and Circles			
Unit 8: Conic Sections			
1. Circles	Finding center, radius – Write equations Including completing the square.	10.3	A.REI.10 G.GPE.1

Unit 12: Circles			
1. Intro to Circles	Define: inscribed angles, central angles, circumscribed angles, radii, chords, tangents	10.6	G.C.1/ G.C.2
2. Construction	Inscribed and circumscribed circles of a triangle, properties of angles for a quadrilateral inscribed in a circle	Pg. 766, 12.3	G.C.3
3. Arc Length and Area of Sectors	Derive using similarity	10.7, 10.6, pg. 675 task 2	G.C.5
Unit 9: Probability and Statistics			
1. Probability		11.2	S. MD.6 / S.MD.7
2. Mean and Standard Deviation		11.6	S.ID.4
3. Normal Distribution		11.9 & CC11	S.ID.4
4. Margin of Error		CC - 12	S.IC.4
5. Data collection		11.7 CC - 13	S.IC.1 / S.IC.3 / S.IC.4 / S.IC.5 S.IC.6
Unit 10: Congruence			
		Geometry Book	
1. Definitions	Points, lines, planes, angles, distance, parallel, perpendicular	1.2, 1.3, 1.4, 1.5, 1.7	G.CO.1
2. Constructions	Segment, angle, segment bisector, angle bisector, perpendicular bisector, perpendicular lines, lines parallel to a given line	1.6, 3.6	G.CO.12
3. Proofs about lines and angles	i.e. – vertical angles are congruent, transversals, perpendicular bisectors	2.6, 3.1, 3.2, 3.3, 3.5	G.CO.9
4. Proofs about parallelograms	all properties	6.2, 6.3	G.CO.11
Unit 11: Similarity and Right Triangles			
			G.MG.3
1. Intro to similar triangles	Proving all sides in proportion, proving all angles congruent	7.2,	G.SRT.2/ G.SRT.5
2. Angle-Angle similarity		7.3	G.SRT.3
3. Proving proportional parts in triangles	A line parallel to one side of a triangle divides the other two proportionally, Pythagorean theorem using triangle similarity	7.5, pgs. 490, 497	G.SRT.4
Unit 13 : Trigonometry			
		Algebra 2 Text	
1. Unit Circle and Radian Measure	Also discuss wrapping functions, counterclockwise & clockwise	13.2 & 13.3	F.TF.1 / F.TF.2
2. Periodic Data, Sine and Cosine Functions	Period, amplitude, frequency, midline	13.1, 13.4 & 13.5	F.IF.4/ F.IF.7/ F.IF.7e/

			F.TF.2/ F.TF.5
3. Tangent Functions	(no graphing)	13.6	F.TF.8
Unit 14: Modeling Math III			
1. Compound interest, continuously compounded interest		Supplement / 7.2	A.SSE.1/ A.SSE.1b/ A.CED.2/ F.IF.7/ F.IF.7e
2. Linear, Quadratic, Cubic, and Quartic Regression		4.3	F.IF.4 / F.IF.5
3. Focus and Directrix of Parabola		10.2	G.GPE.2
4. Growth and Decay models	Include graphing with and without calculator, Solving literal equations	Supplement/ 7.1	A.SSE.1/ A.SSE.1b/ A.CED.2/ F.IF.7/ F.IF.7e/ A.CED.4
ALL UNITS (To be taught throughout)			A.REI.1/ N.Q.1/ N.Q.2/ N.Q.3/ A.CED.3