Algebra 2 Pacing Guide		KEY:
This Pacing Guide was revised in June 2017.		Blue = 2016 SOL standard
Chapters referenced are from old adopted text, Glencoe: Algebra 2		Black = 2009 and 2016 standard
		Red = 2009 SOL standard

SOL #	Standards	Textbook
First Quarter		
AII.3a	a)The student will solve <u>absolute value</u> linear equations and inequalities; (Algebraically and Graphically in 2- variable)	1-4, 1-6 Optional (1-3 and 1-5)
AII.6a	a) the student will recognize the general shape of function families; **(ABSOLUTE VALUE)**	2-6
AII.7	The student will investigate and analyze **ABSOLUTE VALUE** function families algebraically and graphically. Key concepts include:	2-6
	c) extrema	2-6
AII.6b	b) the student will use knowledge of transformations to convert between equations and the corresponding graphs of functions. **(ABSOLUTE VALUE)**	2-6
AII.7	The student will investigate and analyze **ABSOLUTE VALUE** function families algebraically and graphically. Key concepts include:	2-6
	a) domain, range, and continuity	2-6
	b) intervals in which a function is increasing or decreasing;	2-6
	d) zeros	2-6
	e) intercepts;	2-6
	f) values of a function for elements in its domain;	2-6
AII.1a	a) The student will add, subtract, multiply, divide, and simplify rational algebraic expressions	5-1, 5-2, 5-3
AII.1c	c)The student will factor polynomials completely in one or two variables	5-4
AII.1b	b) The student will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents	5-5, 5-6, 5-7
AII.3d	d) the student will solve equations containing radical expressions.	5-8
Second Quarter		
AII.2, AII.3	The student will perform operations on complex numbers and express the results in simplest form using patterns of the powers of i. And identify field properties that are valid for the complex numbers.	5-9
AII.6a	a) the student will recognize the general shape of function families; **(QUADRATIC)**	6-1
AII.7	The student will investigate and analyze **QUADRATIC** function families algebraically and graphically. Key concepts include:	6-1
	a) domain, range, and continuity	6-1
	b) intervals in which a function is increasing or decreasing;	6-1
	c) extrema	6-1
	f) values of a function for elements in its domain;	6-1
	h) end behavior	6-1
	e) intercepts;	6-1
	d) zeros (initially only algebraically)	6-3

All.8	The student will investigate and describe the relationships among solutions of an equation, zeros of a function, x-intercepts of a graph, and factors of a polynomial expression.	6-3
All.3b	b) the student will solve quadratic equations over the set of complex numbers;	6-4, 6-5
All.6b	b) the student will use knowledge of transformations to convert between equations and the corresponding graphs of functions. **(QUADRATIC)**	6-6
All.4, All.5	The student will solve systems of linear-quadratic and quadratic-quadratic equations, algebraically and graphically.	3-1, 3-2 - linear-linear (optional) 8-7 with quadratic-quadratic and circle supplements
Third Quarter		
All.6a	a) the student will recognize the general shape of function families; **(POLYNOMIAL)**	7-1, 7-2
AII.7	The student will investigate and analyze **POLYNOMIAL** function families algebraically and graphically. Key concepts include:	7-1, 7-2
	a) domain, range, and continuity	7-1, 7-2
	b) intervals in which a function is increasing or decreasing;	7-1, 7-2
	c) extrema	
	e) intercepts;	7-1, 7-2
	f) values of a function for elements in its domain;	7-1, 7-2
	h) end behavior	7-1, 7-2
All.6b	b) the student will use knowledge of transformations to convert between equations and the corresponding graphs of functions. **(POLYNOMIAL)**	7-1, 7-2
	d) zeros	7-4 and 7-5 (optional Descartes' Rule)
All.8	The student will investigate and describe the relationships among solutions of an equation, zeros of a function, x-intercepts of a graph, and factors of a polynomial expression.	7-4 and 7-5 (optional Descartes' Rule)
AII.7	The student will investigate and analyze **POLYNOMIAL** function families algebraically and graphically. Key concepts include:	
	k) composition of functions algebraically and graphically.	7-7
	j) inverse of a function	7-8
All.6a	a) the student will recognize the general shape of function families; **(SQUARE ROOTS and CUBE ROOTS)**	7-9 with cube root supplement
AII.7	The student will investigate and analyze **SQUARE ROOTS and CUBE ROOTS** function families algebraically and graphically. Key concepts include:	7-9 with cube root supplement
	a) domain, range, and continuity	7-9 with cube root supplement
	b) intervals in which a function is increasing or decreasing;	7-9 with cube root supplement
	d) zeros	7-9 with cube root supplement
	e) intercepts;	7-9 with cube root supplement
All.6b	b) the student will use knowledge of transformations to convert between equations and the corresponding graphs of functions. **(SQUARE ROOTS and CUBE ROOTS)**	7-9 with cube root supplement

AII.7	The student will investigate and analyze **SQUARE ROOTS and CUBE ROOTS** function families algebraically and graphically. Key concepts include:	7-9 with cube root supplement
	f) values of a function for elements in its domain;	7-9 with cube root supplement
	h) end behavior	7-9 with cube root supplement
	j) inverse of a function	Supplement
AII.6a	a) the student will recognize the general shape of function families; **(EXPONENTIAL and LOGARITHMIC)**	10-1 and 10-2 - Graphs only - Supplements needed
AII.7	The student will investigate and analyze **EXPONENTIAL and LOGARITHMIC** function families algebraically and graphically. Key concepts include:	10-1 and 10-2 - Graphs only - Supplements needed
	i) vertical and horizontal asymptotes	10-1 and 10-2 - Graphs only - Supplements needed
	a) domain, range, and continuity	10-1 and 10-2 - Graphs only - Supplements needed
	b) intervals in which a function is increasing or decreasing;	10-1 and 10-2 - Graphs only - Supplements needed
	d) zeros	10-1 and 10-2 - Graphs only - Supplements needed
	e) intercepts;	10-1 and 10-2 - Graphs only - Supplements needed
	f) values of a function for elements in its domain;	10-1 and 10-2 - Graphs only - Supplements needed
	h) end behavior	10-1 and 10-2 - Graphs only - Supplements needed
AII.6b	b) the student will use knowledge of transformations to convert between equations and the corresponding graphs of functions. **(EXPONENTIAL and LOGARITHMIC)**	10-1 and 10-2 - Graphs only - Supplements needed
AII.7	The student will investigate and analyze **EXPONENTIAL and LOGARITHMIC** function families algebraically and graphically. Key concepts include:	10-1 and 10-2 - Graphs only - Supplements needed
	j) inverse of a function	Supplement
AII.1a	a) add, subtract, multiply, divide, and simplify rational algebraic expressions;	9-1, 9-2
AII.3c	c) the student will solve equations containing **rational** algebraic expressions	9-6
AII.6a	a) the student will recognize the general shape of function families; **(RATIONAL)**	9-3
AII.7	The student will investigate and analyze **RATIONAL** function families algebraically and graphically. Key concepts include:	9-3
	i) vertical and horizontal asymptotes	9-3
	a) domain, range, and continuity	9-3
	b) intervals in which a function is increasing or decreasing;	9-3
	d) zeros	9-3
	e) intercepts;	9-3
	c) extrema	9-3
	f) values of a function for elements in its domain;	9-3
	h) end behavior	9-3

AII.10	The student will represent and solve problems, including practical problems, involving inverse variation, joint variation, and a combination of direct and inverse variations.	9-4, Supplement with combination variations
Fourth Quarter		
AII.9	The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems, using mathematical models of quadratic and exponential functions. polynomial, and logarithmic functions.	2-5, Supplement with quadratic, exponential, curves of best fit and predictions and polynomial, exponential, and logarithmic functions.
AII.7g	The student will investigate and analyze linear, quadratic, absolute value, square root, cube root, rational, polynomial, exponential, and logarithmic function families algebraically and graphically making connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs;	Supplement
AII.5, AII.2	The student will investigate and apply the properties of arithmetic and geometric sequences and series to solve practical problems, including writing the first n terms, determining the nth term, and evaluating summation formulas. Notation will include and an.	11-1, 11-2, 11-3, 11-4, 11-5, 11-6
AII.12	The student will compute and distinguish between permutations and combinations. And use technology for applications	12-2
AII.11	a) identify and describe properties of a normal distribution;	12-7 with Supplement
AII.11	b) The student will interpret and compare z-scores for normally distributed data.	12-7 with Supplement
AII.11	c) The student will apply properties of normal distributions to determine probabilities associated with areas under the standard normal curve.	12-7 with Supplement