Algebra 2 Semester 1 Final Review Topic List

Chapter 1

Sec. 1.1 - *Real number system; properties; unit analysis*

Sec. 1.2 - *Simplifying expressions using the order of operations*

Sec. 1.3 - *Solving equations*

Sec. 1.4 - *Re-writing formulas*

Sec. 1.5 - *Using problem solving strategies and models*

Sec. 1.6 - *Graph simple and compound inequalities; solve simple and compound inequalities*

Sec. 1.7 - *Solve an absolute value equation; extraneous solutions; solve absolute value inequalities*

Chapter 2

Sec. 2.1 - *Relation, domain, range, function*

Sec. 2.2 - *Find slope and classify; parallel and perpendicular slopes*

Sec. 2.3 - *Graph linear equations in: slope-intercept form, standard form; graph horizontal and vertical lines*

Sec. 2.4 - *Write a linear equation in: slope-intercept form, point-slope form, standard form; write equations of parallel and perpendicular lines*

Sec. 2.5 - *Find constant of direct variation; write an equation for direct variation*

Sec. 2.6 - *Scatter plots, correlation, lines of best fit; correlation coefficient*

Sec. 2.7 - *Graph absolute value functions*

Sec. 2.8 - *Graph linear inequalities; graph absolute value inequalities*

Chapter 3

Sec. 3.1 - *Solve systems of linear equations by graphing*

Sec. 3.2 - *Solve systems by substitution; solve systems by elimination*

Sec. 3.3 - *Solve systems of linear inequalities by graphing*

Chapter 4

Sec. 4.1 - *Graph quadratic functions in standard form; vertex, axis of symmetry, maximum and minimum of a function*

Sec. 4.2 - *Graph quadratic functions in: vertex form, intercept form; change to standard form*

Sec. 4.3/4.4- *Factor (many methods); solve by factoring*

Sec. 4.5 - *Simplify radicals; solve quadratic equations by finding square roots*

Sec. 4.6 - *Complex numbers: simplify, add, sub, multiply, divide, conjugate, absolute value, graph, write in standard form; solve quadratic equations by finding square roots*

Sec. 4.7 - *Solve quadratic equations by completing the square*

Sec. 4.8 - *Solve quadratic equations by using the quadratic formula; discriminant; find the number and type of solutions*

Sec. 4.9 - *Graph quadratic inequalities*

Chapter 5

Sec. 5.1 - *Properties of exponents to simplify expressions; scientific notation*

Sec. 5.2 - *Graph polynomial functions; end behavior; direct and synthetic substitution*

Sec. 5.3 - *Add, sub, and multiply polynomials*

Sec. 5.4 – *All types of factoring; sum and difference of cubes; factor polynomials completely*

Sec. 5.5 - *Long and synthetic division with polynomials; factor polynomials completely given a factor; find the zeros of a polynomial given one zero*

Sec. 5.6 – *Possible rational zeros test; finding all real zeros*

Sec. 5.7 – *Finding all zeros of a polynomial; given certain zeros to make a polynomial equation*

Sec. 5.8 – *Sketch polynomial graphs; multiplicity of zeros; given a graph to make a polynomial equation*

Algebra 2 Semester 1 Final Review Assignment

	Chapter 1 Review		
Section	*Topic*	*Page*	*Review Problems*
1.1	Properties of Real Numbers	6	#'s: 11-15odd,31, 33, 41
1.3	Solving Linear Equations	23	#'s: 69, 71
1.4	Rewriting Formulas/Equations	30	#'s: 5, 11, 33, 35
1.5	Problem Solving Strategies	37	#'s: 5, 13, 17
1.6	Solving Linear Inequalities	45	#'s: 37, 39, 43, 45
Ch1 Rev	Equations and Inequalities	1010	#'s: 1, 3, 7-13odd, 21-27odd, 31-35odd, 43-49odd

	Chapter 2 Review		
Section	*Topic*	*Page*	*Review Problems*
2.1	Functions and Relations	77	#'s: 3, 21, 23
2.3	Graph Equations of Lines	94	#'s: 31, 37
2.4	Equations of Lines	102	#'s: 21, 23
2.5	Model Direct Variation	109	#'s: 19, 21, 23
2.8	Graph Linear Inequalities	135	#'s: 15
Ch. 2 Rev	Linear Equations and Functions	1011	#'s: 1-13odd, 19-37odd

	Chapter 3 Review		
Section	*Topic*	*Page*	*Review Problems*
3.1	Solve Linear Systems by Graphing	156	#'s: 19, 23, 27
3.2	Solve Linear Systems Algebraically	164	#'s: 23, 31
3.3	Graph Systems of Linear Inequalities	171	#'s: 5, 9
Ch. 3 Rev	Linear Systems	1012	#'s: 1, 5, 7

	Chapter 4 Review		
Section	*Topic*	*Page*	*Review Problems*
4.6	Operations with Complex Numbers	279	#'s: 1, 29, 43, 47
4.9	Graph and Solve Quadratic Inequalities	304	#'s: 7, 9
Ch. 4 Rev	Quadratics Functions and Factoring	319	#'s: 9, 13, 15, 27, 31, 33
Ch. 4 Rev	Quadratics Functions and Factoring	1013	#'s: 1-17odd, 21, 25-47odd

	Chapter 5 Review		
Section	*Topic*	*Page*	*Review Problems*
5.1-5.3	Exponent Properties & Add/Sub/Mult	352	#'s: 1-8odd, 12-15all
5.4-5.6	Factoring & Division	377	#'s: 1-11odd
Ch. 5 Rev	General Polynomial Review	1014	#'s: 1-29odd