

**DRAFT**

Jefferson County High School  
 Algebra II Pacing Guide – 2009-10  
 Textbook – Glencoe Algebra 2 (2005)

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Unit 1 – QUICK Review of Chapters 1 and 2 (and a little bit of new material) Solving Equations and Inequalities AND Linear Relations and Functions				Estimated Time to Complete: <b>9 Days</b>	
Day	Section	Performance Indicator	Page Numbers	Suggested Problem Set	Resources
1	1:1	First day activities  The learner will use order of operations to evaluate expressions and formulas.	6-10	Page 9 16-49	
2	1:3	The learner will translate verbal expressions into algebraic expressions and equations, and vice versa; and the learner will solve equations using the properties of equality.	20-27	Pages 24-25 41-62	
	1:4	The learner will evaluate expressions involving absolute value and solve equations involving absolute value.	28-32	Pages 30-31 17-41	
3	1:5	The learner will solve inequalities and solve real world problems involving inequalities.	33-39	Page 37 15-32	
	1:6	The learner will solve compound inequalities and absolute value inequalities.	40-46	Page 44 27-40	
4	2:1	The learner will analyze and graph relations and find functional values.	56-62	Pages 60-61 17-28, 46-53	
	2:2	The learner will identify linear equations and functions and write linear equations in standard form and graph them.	63-67	Page 66 15-50	
5	2:3	The learner will find and use the slope of a line and graph parallel and perpendicular lines.	68-74	Pages 72-73 15-36, 43-50	
	2:4	The learner will write an equation of a line given the slope and a point on the line and write an equation of a line that is parallel or perpendicular to a given line.	75-80	Pages 78-79 13-38	
6	2:5	The learner will draw scatter plots and find and use prediction equations.	81-86	Pages 83-85 1-8	
7	2:6	The learner will identify and graph step,	89-95	Pages 93-94	

		constant, and identity functions and identify and graph absolute value and piecewise functions.		15-20, 24-41	
	2:7	The learner will graph linear inequalities and absolute value inequalities.	96-99	Page 98 13-28	
8		Review			
9		Test			
Unit 2 – Chapters 3 & 4 Systems of Equations and Inequalities AND Matrices				Estimated Time to Complete: <b>8 Days</b>	
10	3:1	The learner will solve systems of linear equations by graphing.	110-115	Page 113 13-24	
	3:2	The learner will solve systems of two linear equations by using substitution and elimination.	116-122	Page 120 13-36	
11	3:3	The learner will solve systems of inequalities by graphing and use systems of linear inequalities in contextual situations.	123-127	Page 126 12-29	
	3:4	The learner will solve linear programming problems and use linear programming in contextual situations.	129-134	Pages 132-133 15-29, 31-36	
12	3:5	The learner will solve systems of linear equations in three variables and solve problems using systems of linear equations in three variables.	138-144	Page 142-143 12-21	
13	4:1	The learner will organize data in matrices and solve equations involving matrices.	154-158	Pages 156-157 10-25	
	4:2	The learner will add and subtract matrices, multiply a matrix by a scalar, and use matrices in real-life situations.	160-166	Page 164 14-23	
	4:3	The learner will multiply two matrices and use matrix multiplication in real-life situations.	167-173	Page 172 13-26	
14	4:5	The learner will evaluate determinants of 2x2 and 3x3 matrices.	182-188	Page 186 15-26, 33-38	
	4:7	The learner will find and use inverse matrices and use inverse matrices in real-life situations	195-201	Page 199 20-31	
15	4:8	The learner will solve systems of linear	202-207	Page 206	

		equations using inverse matrices and use systems of linear equations in contextual situations.		20-31	
16		Review			
17		Test			
Unit 3 – Part of Chapters 5, 6, & 9 Polynomials, Solving Quadratic Equations and Inequalities, AND Rational Expressions and Equations				Estimated Time to Complete: <b>10 Days</b>	
18	5:1	The learner will multiply and divide monomials and use expressions written in scientific notation.	222-228	Pages 226-227 18-55	
19	5:2	The learner will add, subtract, and multiply polynomials and use polynomial operations in contextual situations.	229-232	Pages 231-232 22-33, 37-52	
	5:3	The learner will divide polynomials using long division and synthetic division.	233-238	Pages 236-237 15-44	
20-21	5:4	The learner will factor polynomial expressions.	239-244	Supplement	
22	6:3	The learner will solve quadratic equations by factoring.	301-305	Page 304 14-31	
	9:1	The learner will simplify, multiply, divide rational expressions, simplify complex fractions, and use rational expressions to model real-life quantities.	472-478	Page 476 14-41	
23	9:2	The learner will add and subtract rational expressions.	479-484	Pages 482-483 22-39	
24	9:3	The learner will graph simple rational functions and use the graph of a rational function in contextual situations.	485-491	Page 489 16-30	
25	9:6	The learner will solve rational equations and inequalities and use rational equations in contextual situations.	505-511	Page 510 11-30	
26		Review			
27		Test			
Unit 4 – Part of Chapter 5 Polynomials				Estimated Time to Complete: <b>6 Days</b>	
28-29	5:5	The learner will evaluate the $n$ th roots of real numbers and use $n$ th roots in	245-249	Page 248 16-57	

		contextual situations.			
	5:6	The learner will simplify, add, subtract, multiply, and divide radical expressions.	250-255	Page 254 15-46	
30	5:7	The learner will write expressions with rational exponents in radical form, and vice versa; and the learner will simplify expressions in exponential or radical form and use properties of rational exponents in contextual situations.	257-262	Page 261 21-50	
	5:8	The learner will solve equations and inequalities that contain radicals or rational exponents and use radical equations in contextual situations.	263-269	Page 266 13-28	
31	5:9	The learner will add, subtract, multiply, and divide complex numbers.	270-275	Page 274 18-61	
32		Review			
33		Test			
Unit 5 – Chapter 6 Quadratic Functions and Inequalities				Estimated Time to Complete: <b>6 Days</b>	
34	6:2	The learner will solve quadratic equations by graphing.	294-299	Pages 297-298 14-37	
	6:3	The learner will write quadratic equations with given roots.	301-305	Page 304 34-41	
35	6:4	The learner will solve quadratic equations by using the square root property and by completing the square.	306-312	Pages 310-311 32-47	
36	6:5	The learner will solve quadratic equations using the quadratic formula and use the quadratic formula in real-life situations; and the learner will use the discriminant to determine the number and types of roots in a quadratic equation.	313-319	Page 318 14-39	
37	6:7	The learner will graph quadratic inequalities in two variables and solve quadratic inequalities in one variable.	329-335	Page 333 14-25	
38		Review			
39		Test			

Unit 6 – Chapter 8 Conic Sections				Estimated Time to Complete: <b>8 Days</b>	
40	8:1	The learner will find the midpoint of a segment on the coordinate plane and the distance between two points on a coordinate plane.	412-416	Pages 414-415 10-34	
	8:3	The learner will graph and write equations of circles and use circles in contextual situations.	426-431	Pages 429-430 16-47	
41	8:2	The learner will graph and write equations of parabolas and use parabolas in contextual situations.	419-425	Page 424 12-29, 36-41	
42	8:4	The learner will graph and write equations of ellipses and use ellipses in contextual situations.	433-440	Pages 438-439 12-38	
43	8:5	The learner will graph and write equations of hyperbolas and use hyperbolas in contextual situations.	441-448	Pages 445-446 11-34	
44	8:6	The learner will write the equation of conic sections in standard form and identify conic sections from their equation.	449-452	Page 451 12-29	
45	8:7	The learner will solve systems of quadratic equations algebraically and graphically and use quadratic systems in contextual situations.	455-460	Page 458 11-20	
46		Review			
47		Test			
Unit 7 – Chapter 7 Polynomial Functions				Estimated Time to Complete: <b>7 Days</b>	
48	7:1	The learner will evaluate polynomial functions and identify general shapes of graphs of polynomial functions.  The learner will analyze the graph of a polynomial function and use the graph of a polynomial function to answer questions about contextual situations.	346-352	Pages 350-351 16-44	
	7:2	The learner will graph polynomial functions	353-358	Page 356	

		and locate their real zeros and find the maxima and minima of polynomial functions; and the learner will analyze the graph of polynomial functions and use the graph of polynomial functions to answer contextual situations.		13-26	
49-50	7:4	The learner will divide polynomials and relate the result to the remainder theorem and the factor theorem and use polynomial division in contextual situations.	365-370	Pages 368-369 13-30	
	7:5	The learner will determine the number and type of roots for a polynomial equation and find the zeros of a polynomial function with and without technology.	371-377	Pages 375-376 13-40	
	7:6	The learner will find the rational zeros of a polynomial function and use polynomial equations in contextual situations.	378-382	Page 381 12-33	
51	7:7	The learner will perform operations with and use function operations in contextual situations.	383-389	Pages 387-388 17-46	
52	7:8	The learner will find inverses of linear functions and find inverses of nonlinear functions.	390-394	Page 393 14-37 Supplement nonlinear	
	7:9	The learner will graph and analyze square root and cube root functions and inequalities and use square root and cube root functions to find real-life quantities.	395-399	Page 398 14-25 Supplement cube roots	
53		Review			
54		Test			
Unit 8 – Chapter 10 Exponential and Logarithmic Relations				Estimated Time to Complete: <b>7 Days</b>	
55-56	10:1	The learner will graph exponential functions and solve exponential equations and inequalities.	523-530	Page 528 21-38, 45-56	
	10:2	The learner will evaluate logarithmic expressions, graph logarithmic functions, and solve logarithmic equations and	531-538	Page 536 21-62	

		inequalities.			
57	10:3	The learner will simplify and evaluate expressions using the properties of logarithms, solve logarithmic equations using the properties of logarithms, and use properties of logarithms in contextual situations.	541-546	Page 544-545 13-34	
58	10:4	The learner will solve exponential equations and inequalities using common logarithms and evaluate logarithmic expressions using the change of base formula.	547-551	Pages 549-550 17-50	
	10:5	The learner will evaluate expressions involving the natural base and natural logarithms, solve exponential equations and inequalities using natural logarithms, and use the natural base e in real life situations.	554-559	Pages 557-558 20-55	
59	10:6	The learner will use logarithms to solve problems involving exponential growth and exponential decay and graph exponential and exponential decay functions.	560-564	Pages 563-564 10-20	
60		Review			
61		Test			
Unit 9 – Chapter 11 Sequences and Series				Estimated Time to Complete: <b>6 Days</b>	
62	11:1	The learner will use and write sequences.	578-582	Pages 581-582 15-55	
	11:2	The learner will use arithmetic series, use sigma notation, and use arithmetic sequences and series in contextual situations.	583-587	Pages 586-587 15-44	
63	11:3	The learner will use geometric sequences and use geometric sequences in contextual situations.	588-592	Page 591 13-46	
	11:4	The learner will use geometric series and use geometric sequences and series in contextual situations.	594-598	Page 597 15-46	
64	11:5	The learner will find the sums of infinite geometric series and use an infinite series	599-603	Page 602 14-31	

		as a model.			
65	11:7	The learner will use Pascal's and the Binomial Theorem to expand powers of binomials.	612-617	Pages 615-616 13-41	
66		Review			
67		Test			
Unit 10 – Chapters 13 & 14 Trigonometric Functions AND Trigonometric Graphs and Identities				Estimated Time to Complete: <b>10 Days</b>	
68	13:1	The learner will use trigonometric relationships to evaluate trigonometric functions of acute angles and use trigonometric functions in contextual situations.	701-707	Pages 706-707 15-24, 29-34, 41, 42	
69	13:2	The learner will measure angles in standard position using degree measure and radian measure.	709-715	Pages 712-713 19-24, 27-38	
	13:3	The learner will evaluate trigonometric functions of any angle and use trigonometric functions in contextual situations.	717-724	Pages 722-723 22-42, 45 (Possibly include linear/angular velocity problems)	
70	13:4	The learner will use the law of sines to find the sides and angles of a triangle.	725-732	Page 731 20-22, 28-30	
71	13:7	The learner will evaluate inverse trigonometric functions and use inverse trigonometric functions in contextual situations.	746-751	Page 749 27-37	
72-73	14:1	The learner will graph sine and cosine functions and graph tangent functions.	762-768	Page 767 15, 16, 18, 21, 25, 28	
74	14:2	The learner will graph translations of sine and cosine functions and graph translations and reflections of tangent graphs.	769-776	Pages 774-775 19, 21, 25, 33, 38	
75	14:3	The learner will use identities to find trigonometric values and use the identities to simplify expressions.	777-781	Pages 779-780 13-21, 25-29, 31, 33	
76		Review			
77		Test			

Unit 11 – Chapter 12  
Probability and Statistics

Estimated Time to Complete: **6 Days**

78	12:2	The learner will solve problems involving linear permutations and combinations.	638-643	Page 641 4-9, 14-17, 25, 26, 28	
79	Supplement	The learner will find the probability and odds of events and create and use graphs of probability distributions.	644-650	Supplement	
80	12:6	The learner will use measures of central tendency to represent a set of data and find measures of variation for a set of data.	664-670	Pages 667-668 9-12, 17, 21-23, 27-30	
81	12:7	The learner will determine whether a set of data appears to be normally distributed or skewed and solve problems using normally distributed data.	671-675	Page 674 12-21	
82		Review			
83		Test			