

APPLIED ALGEBRA II
SEMESTER 1 ASSESSMENT ITEM SPECIFICATION SHEET & KEY



Free Response						
#	Objective	Syllabus Objective	NV State Standard			
1	<ul style="list-style-type: none"> ♦ Graph a polynomial function. ♦ Analyze graphs of polynomial functions to determine characteristics. 	6.1 6.8	1.12.7 2.12.4 4.12.9			
2	<ul style="list-style-type: none"> ♦ Graph quadratic functions. ♦ Identify the domain and range of linear, quadratic, or polynomial functions. 	2.2 5.1	2.12.3 2.12.4			
3	<ul style="list-style-type: none"> ♦ Develop a mathematical model to solve real-world problems. ♦ Organize data using matrices. ♦ Simplify matrix expressions. 	1.7 4.1 4.2	1.12.7 2.12.2			
Multiple Choice						
#	Objective	Syllabus Objective	NV State Standard	08/09 Practice Key A/B	08/09 Final Key*	09/10 Final Key
1	Differentiate among subsets of real number systems.	1.1	1.12.8	C / -	C	
2	Evaluate algebraic expressions.	1.2	2.12.3	A / B	D	
3	Simplify algebraic expressions.	1.2	2.12.3	D / D	D	
4	Solve linear equations.	1.4	2.12.2	C / A	B	
5	Solve for a given variable in a given equation with more than one variable.	1.5	2.12.4	D / A	A	
6	Solve for a given variable in a given equation with more than one variable.	1.5	2.12.4	B / B	C	
7	Solve an absolute value equation or inequality.	1.6	2.12.2	C / C	B	
8	Solve a compound inequality.	1.6	2.12.2	A / D	A	
9	Applications of linear models.	1.7	2.12.2	B / D	A	
10	Differentiate between a relation and a function.	2.1	2.12.4	C / B	D	
11	Identify the domain and range of functions.	2.2	2.12.4	A / B	A	
12	Write the equation of a line.	2.5	4.12.5	C / C	B	
13	Write the equation of a line.	2.5	4.12.5	D / -	D	
14	Calculate the slope of a line.	2.6	4.12.5	D / -	B	
15	Recognize slope as a rate of change of one variable in terms of another.	2.7	4.12.5	C / C	C	
16	Use slopes to classify lines as parallel, perpendicular, or neither.	2.8	4.12.5	A / -	D	
17	Graph linear and absolute value equations and inequalities.	2.10	4.12.5	D / D	B	
18	Solve application problems using linear models and applying direct variation.	2.12	2.12.6	A / -	A	
19	Define, graph, or evaluate piecewise functions.	2.13	4.12.5	B / B	B	
20	Solve a system of equations.	3.1	2.12.5 4.12.5	D / C	B	
21	Solve a system of equations.	3.1	2.12.5 4.12.5	C / A	A	
22	Solve a system of equations.	3.1	2.12.5 4.12.5	B / A	C	
23	Graph the solution set of a system of inequalities.	3.2	4.12.5	A / D	D	
24	Solve application problems involving systems of equations or inequalities.	3.3	2.12.6	B / -	A	
25	Solve application problems using linear programming.	3.4	5.12.1	C / B	B	

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26	Organize data using matrices.	4.1	1.12.7	B / D	A	
27	Simplify matrix expressions.	4.2	1.12.7	A / D	B	
28	Simplify matrix expressions.	4.2	2.12.2 2.12.5 4.12.5	B / A	D	
29	Find the determinant of a matrix.	4.3	2.12.6	C / A	C	
30	Solve systems using matrices.	4.5	2.12.2 2.12.5 4.12.5	D / -	A	
31	Graph quadratic functions.	5.1	2.12.3 2.12.4	D / A	C	
32	Solve quadratic equations.	5.2	1.12.6 1.12.7 2.12.3	C / C	B	
33	Solve quadratic equations.	5.2	1.12.6 1.12.7 2.12.3	D / C	A	
34	Solve quadratic equations.	5.2	1.12.6 1.12.7 2.12.3	C / A	D	
35	Solve quadratic equations.	5.2	1.12.6 1.12.7 2.12.3	D / B	D	
36	Analyze the nature of the roots of a quadratic equation.	5.3	1.12.6 1.12.7 2.12.4	B / C	A	
37	Solve a quadratic equation with complex solutions.	5.4	1.12.7	A / B	C	
38	Perform operations with complex numbers.	5.5	2.12.3 2.12.4	B / D	C	
39	Graph and solve quadratic inequalities.	5.6	1.12.6 1.12.7 2.12.3 4.12.5	D / B	D	
40	Solve quadratic equations.	5.2	1.12.6 1.12.7 2.12.3	B / -	C	
41	Graph a polynomial function.	6.1	2.12.4	D / C	B	
42	Graph a polynomial function.	6.1	2.12.4	A / -	D	
43	Simplify polynomial expressions.	6.2	1.12.7 2.12.4	B / D	A	
44	Solve polynomial equations by factoring and graphing.	6.3	1.12.7 2.12.3 2.12.4	C / -	B	
45	Solve polynomial equations by factoring and graphing.	6.3	1.12.7 2.12.3 2.12.4	C / -	D	

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46	Find rational zeros of a polynomial.	6.4	2.12.3 2.12.4	A / A	A	
47	Use the Fundamental Theorem of Algebra to determine the number of zeros.	6.5	1.12.7	D / -	C	
48	Divide polynomials.	6.6	1.12.7	A / D	C	
49	Analyze graphs of polynomial functions to determine characteristics.	6.8	1.12.7 4.12.9	B / B	D	
50	Analyze graphs of polynomial functions to determine characteristics.	6.8	1.12.7 4.12.9	B / C	C	

08/09 Practice Test B Additional Key

1. reals, irrationals

13. $y + 4 = \frac{2}{5}(x - 2)$

14. $-\frac{1}{7}$

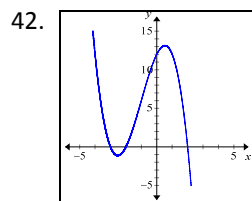
16. neither

18. $x = 12$

24. 14 dimes, 10 quarters

30. $x = \frac{16}{9}, y = \frac{19}{9}$

40. $t = \frac{5\sqrt{3}}{2}$ sec



44. $x = \pm 1, x = \pm\sqrt{7}$

45. $(3x + 4)(9x^2 - 12x + 16)$

47. three