

Algebra II: Number Systems / Algebraic Operations																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
								I	E	E	M					
District Objective Manipulate basic algebraic expressions using order of operations and properties of real numbers.												PASS Process Standard		Quarter I No. Days 2		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will...														NCTM Standard Pgs. 291-294		
I. Number Systems / Algebraic Operations A. Define and perform operations on: 1. real numbers																
Text Correlation 1.1 Pgs. 2-8								Rating 1		Additional Resources Introduction to Graphing Calculator Activity; Order of Operations Card Game Activity						
Assessment																
Simplify: 1. $6 - [28 - (4 + 2)^2]$ 2. $-4[12 - 2(8 - 5)]$																

Algebra II: Number Systems / Algebraic Operations																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
								I	E	E	M					
District Objective *Solve routine two- and three-step linear equations having integer or decimal answers. <i>*Critical to success in next course.</i>												PASS Process Standard III D		Quarter I No. Days 3		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will...													NCTM Standard Pgs. 300-302			
Text Correlation 1.2 Pgs. 9-14 1.3 Pgs. 18-23								Rating 1		Additional Resources Puzzle # 3 Activity						
Assessment 1. What value of x solves the following proportion? $\frac{9}{6} = \frac{x}{8}$ (a) $5\frac{1}{3}$ (b) $6\frac{3}{4}$ (c) $10\frac{1}{2}$ (d) 11 *(e) 12 1. If $-(5x - 21) = 2x$, then $x = ?$ *(a) 3 (b) 5 (c) 7 (d) -3 (e) -7																

Algebra II: Number Systems / Algebraic Operations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
								I	E		M				
District Objective *1. Translate word expressions into mathematical expressions. *2. Solve real-world problems using first-degree equations. *3. Solve routine two-step or three-step arithmetic problems, such as rate and proportion problems, multistep percent (e.g., tax added and percentage off), and average problems (e.g., computing with negative integers or using a given average). *4. Solve word problems containing several rates, proportions, or percentages. <i>*Critical to success in next course.</i>												PASS Process Standard I A II A		Quarter I No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations L. Solve routine multistep problems using concepts such as rate, distance, ratio and proportion , average, and percent.													NCTM Standard Pgs. 303-305		
Text Correlation 1.4 Pgs. 24-30 1.5 Pgs. 31-36								Rating 1		Additional Resources Problem Solving Strategies Activity; Literal Equations and Formulas Activity					
Assessment The relationship between temperature expressed in degrees Fahrenheit (F) and degrees Celsius (C) is given by the formula $F = \frac{9}{5}C + 32$ <ol style="list-style-type: none"> 1. If the temperature is 14 degrees Fahrenheit, what is it in degrees Celsius? *(a) -10 (b) -12 (c) -14 (d) -16 (e) -18 2. Near a large city, planes take off from two airfields. One of the fields is capable of sending up a plane every 3 minutes. The other field is capable of sending up 2 planes every 7 minutes. At these rates, which of the following is the most reasonable estimate of the total number of planes the two airfields could send up in 90 minutes? (a) 18 (b) 27 (c) 36 (d) 44 *(e) 55 3. A performance was rated on a 3-point scale by an audience. A rating of 1 was given by 30% of the audience, a rating of 2 by 60%, and a rating of 3 by 10%. To the nearest tenth, what was the average of the ratings? (a) 1.2 (b) 1.5 *(c) 1.8 (d) 2.0 (e) 2.2 															

Algebra II: Number Systems /Algebraic Operations (Equalities & Inequalities)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
								I		E		M			
District Objective Solve absolute value and inequality equations and graph on a number line.												PASS Process Standard		Quarter I No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...													NCTM Standard Pgs. 300-303		
Text Correlation 1.6 Pgs. 37-43 1.7 Pgs. 44-49			Rating 1		Additional Resources Worksheet 1.6; Open Sentences Activity; Inequality Card Game Activity; http://www.sosmath.com/algebra/inequalities/ineq03/ineq03.html										
Assessment															
Which of the following is a graph of the solution of the inequality $-x^2 + 5x - 6 < 0$?															
(a)				(d)											
(b)				(e)											
(c)															

Algebra II: Data Analysis, Statistics & Probability																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
								I	E		E	M				
District Objective Interpret a model or equation and use to make predictions.												PASS Process Standard II C IV A V B		Quarter I No. Days 2		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will... III. Data Analysis, Statistics, and Probability B. Interpret constants, coefficient, and bases in the context of data to check the model/equation for goodness-of-fit and use the model/equation for predictions.														NCTM Standard Pgs. 331-333		
Text Correlation 1.8 Pgs. 50-55					Rating 1			Additional Resources Exploring Date: Tables and Graphs Activity								
Assessment The bar graph below shows the payments made by XYZ Corporation on contracts to four different suppliers last month. The same information is displayed in the pie chart.																
1. How many degrees are there in the angle of the sector of the pie chart representing Corman? (a) 36 (b) 60 (c) 100 (d) 108 (e) 120																
2. If Corman goes out of business and XYZ divides up its payments among the three suppliers Ajax, Baker, and Delta in the ratio of 3:2:1, how many degrees in the new pie chart will be in the section representing Baker? (a) 25 (b) 45 (c) 60 (d) 75 (e) 90																

Algebra II: Functions and Relations (Linear)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I	E	M				
District Objective *1. Identify and graph linear equations and inequalities. *2. Match linear graphs with their equations. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter I No. Days 5	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations B. Solve, analyze, and graph linear equations, inequalities, and systems.													NCTM Standard Pgs. 300–303		
Text Correlation 2.1 Pgs. 64-69 2.3 Pgs. 78-83 2.5 Pgs. 94-100								Rating 1		Additional Resources ALGEO Bingo Activity; Bouncing Ball Activity; Graphing Lines of the Form $y = mx + b$ Activity; Graphing Other Lines Activity;					
Assessment Graph: $x - 2y < -2$ <div style="display: flex; justify-content: space-around;"> (a) (b) </div> <div style="display: flex; justify-content: space-around;"> (c) (d) </div>															

Algebra II: Functions and Relations (Linear)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I	E	M				
District Objective Determine slope and use properties of parallel and perpendicular lines.												PASS Process Standard		Quarter I No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...													NCTM Standard Pgs. 305-306		
Text Correlation 2.2 Pgs . 70-76							Rating 1		Additional Resources Slope Activity						
Assessment															
<p>1. Find the equation of a straight line parallel to the line with equation $y = 2x - 5$ that passes through the point $(-1, 4)$. The equation is $y = 2x + 6$</p> <p>2. Find the equation of a straight line perpendicular to the line with equation $y = \frac{2}{3}x - 4$ that has y-intercept 9. Solution: The given line has slope $\frac{2}{3}$. Any line perpendicular to it must have as its slope the negative reciprocal of $\frac{2}{3}$, that is, $-\frac{3}{2}$. Since the line we want has y-intercept 9, its equation must be $y = -\frac{3}{2}x + 9$. It is possible to multiply this equation by 2 to get $2y = -3x + 18$, which could also be written $3x + 2y = 18$.</p> <p>3. Find the slope of the line passing through the points $(5, 7)$ and $(-3, 4)$. Solution: $m = \frac{4-7}{-3-5} = \frac{-3}{-8} = \frac{3}{8}$</p>															

Algebra II: Functions and Relations (Linear)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I	E	M				
District Objective Write equations of lines.												PASS Process Standard		Quarter I No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...												NCTM Standard Pgs. 300-303			
Text Correlation 2.4 Pgs. 86-92						Rating 2		Additional Resources Writing Equations Activity; Name That Equation Activity; The Graph Game Activity							
Assessment															
1. Write an equation of a line having slope 4 and y -intercept -3 . (a) $x = 4y + 3$ (b) $y = \frac{1}{4}x + 3$ (c) $y = 4x + 3$ *(d) $y = 4x - 3$															
2. Find an equation of the line, in slope-intercept form, that passes through the point $(2, -3)$ and has slope 3. (a) $y = -3x - 9$ (b) $y = 3x + 9$ (c) $y = -3x + 9$ *(d) $y = 3x - 9$															
3. Find an equation of the line, in slope-intercept form, that passes through the points $(2, -1)$ and $(5, 2)$. *(a) $y = x - 3$ (b) $y = x + 3$ (c) $y = \frac{1}{3}x - 3$ (d) $y = 3x - 3$															

Algebra II: Functions and Relations (Linear)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal				
									I		E	M							
District Objective Solve problems using direct variation.												PASS Process Standard		Quarter I No. Days 1					
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																			
PASS Objective The student will...														NCTM Standard Pgs. 297-300					
II. Functions and Relations L. Solve routine multistep problems using concepts such as rate, distance, ratio and proportion , average, and percent.																			
Text Correlation 2.4 Pg. 88					Rating 1		Additional Resources How Big Is Your Foot Activity; Finding Human Ratios Lab Activity												
Assessment																			
If $\frac{5}{x} = \frac{15}{9}$, then $x =$																			
(a) 1				(b) 3				(c) 9				(d) 18				(e) 27			

Algebra II: Data Analysis, Statistics & Probability

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal																		
									I		E	M																					
District Objective Collect data involving two variables, display on a scatter plot and find the best fit equation.												PASS Process Standard		Quarter I No. Days 3																			
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																																	
PASS Objective The student will... III. Data Analysis, Statistics, and Probability A. Collect data involving two variables and display on a scatter plot , interpret results using a linear, exponential or quadratic model/equation and identify whether the model/equation is a curve of best fit for the data (e.g., given a scatter plot and several linear, quadratic or exponential equations, which one is the best fit?).												NCTM Standard Pgs. 325-327																					
Text Correlation 2.7 Pgs. 107-112						Rating 1		Additional Resources Best Fit Lines Activity; Intro to Data Analysis Problem Activity																									
Assessment 1. For the following data: (a) Make a scatter plot of the data. (b) Draw a line of fit for your scatter plot. (c) Find an equation for your line of fit. <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;"><i>x</i></td> <td style="padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">2</td> <td style="padding: 2px 5px;">3</td> <td style="padding: 2px 5px;">4</td> <td style="padding: 2px 5px;">5</td> <td style="padding: 2px 5px;">6</td> <td style="padding: 2px 5px;">7</td> <td style="padding: 2px 5px;">8</td> </tr> <tr> <td style="padding: 2px 5px;"><i>y</i></td> <td style="padding: 2px 5px;">2.25</td> <td style="padding: 2px 5px;">4.1</td> <td style="padding: 2px 5px;">4.45</td> <td style="padding: 2px 5px;">6</td> <td style="padding: 2px 5px;">6.65</td> <td style="padding: 2px 5px;">9.1</td> <td style="padding: 2px 5px;">9.45</td> <td style="padding: 2px 5px;">11</td> </tr> </table> <p>SOLUTION: $y = 1.25x + 1$</p>																<i>x</i>	1	2	3	4	5	6	7	8	<i>y</i>	2.25	4.1	4.45	6	6.65	9.1	9.45	11
<i>x</i>	1	2	3	4	5	6	7	8																									
<i>y</i>	2.25	4.1	4.45	6	6.65	9.1	9.45	11																									

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
District Objective Solve systems of equations by graphing.												PASS Process Standard I B III A		Quarter I No. Days 1	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input checked="" type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input checked="" type="radio"/> AP															
PASS Objective The student will...													NCTM Standard		
Text Correlation 3.1 Pgs. 122-127							Rating 1		Additional Resources Solving Systems by Graphing Activity; Graphing Systems of Equations Activity						
Assessment															

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
District Objective Solve systems of equations algebraically.												PASS Process Standard I B III A		Quarter I No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...													NCTM Standard		
Text Correlation 3.2 Pgs. 130-135						Rating 1		Additional Resources Problem Solving Using Linear Systems Activity							
<p>Assessment</p> <p>Solve the following system of equations for x and y.</p> $4x + 2y = 0$ $5x + 2y = 1$															

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
District Objective Solve systems of linear inequalities.												PASS Process Standard		Quarter I No. Days 2	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...													NCTM Standard		
Text Correlation 3.4 Pgs. 145-150						Rating		Additional Resources Graphing Systems of Inequalities Activity							
Assessment															

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal		
											I	M					
District Objective Solve systems of equations in three variables. (Optional)												PASS Process Standard		Quarter I No. Days 2			
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input checked="" type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input checked="" type="radio"/> AP																	
PASS Objective The student will...													NCTM Standard				
Text Correlation 3.6 Pgs. 157-163							Rating 1		Additional Resources Puzzle #44 Activity								
Assessment Solve for x , y , and z . $6x - y - 3z = 2$ $-3x + y - 3z = 1$ $-2x + 3y + z = -6$																	

Algebra II: Number Systems / Algebraic Operations (Matrices)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M		M	
District Objective *Add, subtract, and multiply matrices. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter II No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...													NCTM Standard Pg. 294		
I. Number Systems / Algebraic Operations C. Operate with matrices to solve problems: 1. Add, subtract, and multiply matrices															
Text Correlation 4.1 Pgs. 174-179 4.2 Pgs. 180-185						Rating 1		Additional Resources Promoting Conceptual Understanding of Matrices Activity; Organizing Data in Matrices Activity							
Assessment															
<p>If $A = \begin{bmatrix} 2 & 6 \\ 9 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 3 & -2 \\ 9 & 1 & 5 \end{bmatrix}$ then the entry in the second row, third column AB will be:</p> <p>*(a) -11 (b) -1 (c) 1 (d) 11 (e) 20</p>															

Algebra II: Number Systems / Algebraic Operations (Matrices)

K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
											I	M			
District Objective *Find the inverse and evaluate a determinant of a matrix. *Critical to success in next course.												PASS Process Standard		Quarter II No. Days 3	
○ ITBS ○ CRT ○ EXPLORE ○ EOI ○ PLAN ○ ACT ○ AP															
PASS Objective The student will... I. Number Systems / Algebraic Operations C. Operate with matrices to solve problems: 2. Find the inverse and determinant of a matrix													NCTM Standard Pg. 294		
Text Correlation 4.3 Pgs. 187-193 4.4 Pgs. 196-202				Rating 2		Additional Resources Matrices and Determinants/Cultural Diversity Activity; Finding and Verifying Inverse Matrices Activity; Vanna Red Activity									
Assessment 1. Find the inverse of the matrix (if it exists) $\begin{bmatrix} 4 & 3 \\ 1 & -5 \end{bmatrix}$															
(a) A^{-1} does not exist. (b) $\begin{bmatrix} 5 & 1 \\ 1 & 4 \end{bmatrix}$ *(c) $\begin{bmatrix} 5 & 3 \\ 1 & -4 \end{bmatrix}$ (d) $\begin{bmatrix} 4 & 1 \\ 23 & 23 \end{bmatrix}$															
Evaluate the determinant:															
2. $\begin{vmatrix} 1 & 6 \\ 2 & 7 \end{vmatrix}$ (a) 5 (b) 19 (c) 0 (d) -5															
3. $\begin{vmatrix} 1 & 5 & 5 \\ 2 & 4 & 4 \\ 3 & 1 & 3 \end{vmatrix}$ (a) 28 *(b) -12 (c) 12 (d) 48															

Algebra II: Number Systems / Algebraic Operations (Matrices)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M			
District Objective Solve systems of equations using Cramer's Rule. (Optional)												PASS Process Standard		Quarter II No. Days 4	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...												NCTM Standard Pg. 294			
Text Correlation 4.7 Pgs. 216-221								Rating 2		Additional Resources Puzzle #62 Activity					
Assessment															
<p>Use Cramer's Rule to solve for x:</p> $\begin{cases} 5x - 4y = -4 \\ x + 2y = 4 \end{cases}$															
(a) $\frac{8}{7}$				(b) $-\frac{12}{7}$				(c) $\frac{12}{7}$				*(d) $\frac{4}{7}$			

Algebra II: Functions and Relations (Quadratic Equations)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M			
District Objective *Identify characteristics of graphs based on general equations. (e.g., $y = ax^2 + bx + c$). <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter II No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations C. Solve quadratic equations by 1. graphing												NCTM Standard Pgs. 291-292			
Text Correlation 5.1 Pgs. 230-235 5.2 Pgs. 236-241								Rating 1		Additional Resources Preferably a day spent on simplifying square roots or beginning of chapter 7; Graphing Calculator Experiments on Parabolas Activity; On the Farm Color Sheet					
Assessment Find the coordinates of the vertex of the parabola $y = x^2 - 4x + 3$.															

Algebra II: Functions and Relations (Quadratic Equations)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I/M				
District Objective *Find and interpret the maximum and minimum (vertex) of a quadratic function. <i>*Critical to success in next course.</i>											PASS Process Standard		Quarter II No. Days 1		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... III. Functions and Relations E. Find or interpret the maximum and minimum value and the y-intercept of a quadratic function.													NCTM Standard Pgs. 291-292		
Text Correlation 5.2 Pgs. 236-241					Rating 1		Additional Resources Attached - Use the Words Maximum and Minimum; Work Together Activity; The Box Problem Activity								
Assessment 1. Find the coordinates of the vertex of the parabola $y = x^2 - 4x + 3$. SOLUTION: The x - coordinate of the vertex is $x = -\frac{b}{2a} = -\frac{-4}{2(1)} = 2$. Substituting, the y - coordinate is $y = (2)^2 - 4(2) + 3 = -1$. Hence, the vertex is $(2, -1)$. 2. Find the minimum value of the function $f(x) = (x - 1)^2 + 3$. (a) 0 (b) 1 (c) 2 *(d) 3 (e) -2															

Algebra II: Functions and Relations (Quadratic Equations)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M			
District Objective Solve quadratic equations by completing the square.												PASS Process Standard		Quarter II No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...												NCTM Standard Pgs. 291-292			
II. Functions and Relations C. Solve quadratic equations by 3. completing the square															
Text Correlation 5.3 Pgs. 245-250								Rating 1		Additional Resources Completing the Square Activity; Using Algebra Tiles to Complete the Square Activity; Puzzle #31 Activity					
Assessment															
Solve by completing the square: $6x = 4x^2 - 1$															
(a) $\frac{-3+\sqrt{5}}{4}$ and $\frac{-3-\sqrt{5}}{4}$ (b) $\frac{3+\sqrt{13}}{4}$ and $\frac{3-\sqrt{13}}{4}$															
*(c) $\frac{-3+\sqrt{13}}{4}$ and $\frac{-3-\sqrt{13}}{4}$ (d) $\frac{3+\sqrt{5}}{4}$ and $\frac{3-\sqrt{5}}{4}$															
Algebra II: Functions and Relations (Quadratic Equations)															

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I/M				
District Objective Solve quadratic equations using the quadratic formula. Use the discriminant to determine the nature of the roots.											PASS Process Standard		Quarter II No. Days 3		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and relations C. Solve quadratic equations by 4. quadratic formula													NCTM Standard Pgs. 291-292		
Text Correlation 5.4 Pgs. 256-257							Rating 1		Additional Resources Quadratic Formula Song Activity; Solving Quadratic Equations Activity; Puzzle # 49 Activity						
Assessment <i>If $6x^2 - x - 12 = 0$, what is the smallest integer greater than x?</i> SOLUTION: Use the quadratic formula to solve for x . ANSWER: (2 is the smallest integer greater than x).															

Algebra II: Number Systems /Algebraic Operations (Complex Numbers)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M			
District Objective *1. Simplify, add, subtract, and multiply complex numbers. *2. Solve equations using complex numbers. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter II No. Days 4	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... I. Number Systems / Algebraic Operations A. Define and perform operations on: 2. Complex numbers													NCTM Standard Pg. 291-292		
Text Correlation 5.5 Pgs. 258-264 5.6 Pgs. 264-270								Rating 1		Additional Resources The Story of i ; The Complex Number System Activity; Puzzle #29 Activity					
Assessment If $z = 4 + 3i$ and $w = 3 - 4i$, $zw - \frac{z}{w} = ?$ (a) $14 - i$ (b) $7 - 25i$ (c) $24 - 6i$ *(d) $24 - 8i$ (e) $7 - i$ SOLUTION: The correct answer is (d). Multiplying $(4 + 3i)(3 - 4i)$ by the FOIL method yields $12 - 7i - 12i^2$. Replacing i^2 by -1 , we have $12 - 7i - 12(-1) = 12 - 7i + 12 = 24 - 7i$. To find $\frac{z}{w}$ in the form $a + bi$ so that we can subtract it from zw , we need to rationalize the denominator of the fraction by multiplying the numerator and denominator of the fraction by the <i>complex conjugate</i> of w . (The complex conjugate of $a + bi = a - bi$.) When you multiply these two, the term involving i drops out, and you end up with just $a^2 + b^2$, Thus: $\frac{z}{w} = \frac{4 + 3i}{3 - 4i} \cdot \frac{3 + 4i}{3 + 4i} = \frac{12 + 25i + 12i^2}{3^2 + 4^2} = \frac{25i}{25} = i$ Hence, $zw = \frac{z}{w} = (24 - 7i) - i = 24 - 8i$.															

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal		
									I		M						
District Objective *Define and distinguish between relations and functions. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter II No. Days 1			
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																	
PASS Objective The student will... II. Functions and Relations G. Define and distinguish between relations and functions .												NCTM Standard Pgs. 297-300					
Text Correlation 6.1 Pgs. 284-290						Rating 1		Additional Resources library.thinkquest.org/2647/algebra/funcbasec.htm									
Assessment 1. Determine whether the relation is a function: (0, 4), (1, 4), (2, 5), (3, 6), (4, 6) ANSWER: Yes 2. Which of the following is a function? (a) $x = y^2$ (b) $\{(3, 6), (3, 5), (5, 1)\}$ (c) $x^2 + y^2 = 1$ *(d) $\{(1, 3), (2, 3), (6, 3)\}$																	

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
District Objective *1. Use functional notation and specify domain and range. *2. Find the composition of functions.												PASS Process Standard		Quarter II No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations H. Use functional notation and specify domain and range .													NCTM Standard Pgs. 297-300		
Text Correlation 6.2 Pgs. 291-296						Rating 1		Additional Resources Function Basics Activity; Puzzle # 20 Activity; library.thinkquest.org/2647/algebra/funclasc.htm							
Assessment 1. Find the domain and the range of the relation $\{(5, 2), (0, -5), (-4, 1)\}$ $D = \{0, -4\}$ $R = \{-5, 1\}$ 2. Letting $f(x) = x^2$ and $g(x) = x + 3$, find each of the following: (a) $g(2)f(5)$ (b) $f(g(1))$ (c) $g(f(x))$ SOLUTIONS: (a) $g(2) = 2 + 3 = 5$; $f(5) = 5^2 = 25$; $g(2)f(5) = 5(25) = 125$. (b) To find $f(g(1))$, first find $g(1) = 1 + 3 = 4$. Now $f(g(1)) = f(4) = 4^2 = 16$. (c) To find $g(f(x))$, substitute $f(x)$ every place you see an x in $g(x) = x + 3$. In other words, $g(f(x)) = f(x) + 3$. But, since $f(x) = x^2$, $g(f(x)) = x^2 + 3$.															

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M			
District Objective *Find the inverse of a function and graph. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter II No. Days 2	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations 1. Find the inverse of a function and graph.												NCTM Standard Pgs. 297-300			
Text Correlation 6.3 Pgs. 298-304						Rating 1		Additional Resources Flask Functions Activity							
Assessment Which of the following functions is $f^{-1}(x)$ for $f(x) = 3x + 2$? (a) $-3x + 2$ *(b) $\frac{x-2}{3}$ (c) $\frac{1}{3x+2}$ (d) $\frac{1}{3x} + 2$ (e) $\frac{1}{3}x + \frac{1}{2}$															

Algebra II: Functions and Relations

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		E	M			
District Objective Recognize the parent graph of the function $y = x^2$ and predict the effects of transformations on the parent graph.												PASS Process Standard		Quarter II No. Days 1	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations A. Recognize the parent graph of the function $y = x^2$ and predict the effects of transformations on the parent graph (e.g., $y = x^2 + 3$ shifts the graph up 3; $y = 3x^2$ creates vertical stretching by a factor of 3).												NCTM Standard Pgs. 314-315			
Text Correlation 6.5 Pgs. 314-320								Rating 1		Additional Resources Transformations of Graphs and Functions Activity					
Assessment Use the equation $y = x^2$ to graph the equation $y = -x^2 + 2$. (a) *(b) (c) (d)															

Algebra II: Data Analysis, Statistics and Probability															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		E	M			
District Objective Evaluate measures of central tendency.												PASS Process Standard		Quarter II No. Days 2	
○ ITBS ○ CRT ● EXPLORE ○ EOI ● PLAN ● ACT ○ AP															
PASS Objective The student will...												NCTM Standard Pgs. 327-329			
III. Data Analysis, Statistics, and Probability C. Analyze and synthesize data using measures of central tendency and standard deviations.															
Text Correlation 6.7 Pgs 327-332						Rating 1		Additional Resources Finding the Mean Using Hands-On Activities; Organizing Data in a Box Plot Activity							
Assessment															
1. Margaret has an average of 88 on her four calculus exams. To get an A, she must have a 90 average. What grade must she get on the next exam to bring her average up to 90?															
(a) 90 (b) 92 (c) 94 (d) 96 *(e) 98															

Algebra II: Data Analysis, Statistics and Probability															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		E	M			
District Objective Identify outliers in a box and whisker plot and describe their impact on representations of data.												PASS Process Standard		Quarter II No. Days 1	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...												NCTM Standard Pgs. 325-327			
III. Data Analysis, Statistics, and Probability D. Identify how given outliers affect representations of data (e.g., a regression line may be strongly affected by a few aberrant points while the same aberrant points might indicate a mistake on a scatter plot).															
Text Correlation 6.7 Pgs. 327-332								Rating 1		Additional Resources Jump Activity					
Assessment															
1. Which set of data is represented by the box-and-whisker plot?															
*(a) 30, 24, 7, 23, 34, 29, 14 (b) 30, 24, 7, 23, 36, 29, 14 (c) 30, 24, 7, 13, 34, 29, 14 (d) 30, 22, 7, 23, 34, 29, 14															
2. Which values are outliers in the set of data: {53, 42, 48, 16, 32, 58, 63, 84, 49, 55}															
(a) 84 *(b) 16 and 84 (c) no outliers (d) 16															

Algebra II: Number Systems / Algebraic Operations (Powers, Roots and Radicals)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
								I	E		M				
District Objective *Use properties of exponents to simplify polynomial expressions. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter III No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... I. Number Systems / Algebraic Operations B. Convert expressions from radical notations and vice versa.													NCTM Standard Pgs. 297-300		
Text Correlation 7.1 Pgs. 346-351 7.3 Pgs. 360-366								Rating 1		Additional Resources Exponent Shuffle Activity; Exponent Shuffle Problems; Developing the Laws of Exponents Activity					
Assessment Simplify: 1. $\frac{6x^3}{2x^2}$ 2. $\frac{7x^5y^7}{3x^2y^4}$ 3. $\frac{12x^2}{3y^3}$ 4. $4^2 \cdot 4^4 =$ (a) 4^2 * (b) 4^6 (c) 4^8 (d) 16^6 (e) 16^8 5. $\frac{F}{G} x^6 \frac{H}{K} =$ (a) x^8 (b) x^{12} (c) $\frac{1}{4}x^8$ * (d) $\frac{1}{4}x^{12}$ (e) $\frac{1}{4}x^{36}$															

Algebra II: Functions and Relations (Powers, Roots and Radicals)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
District Objective *Use properties of rational exponents to simplify polynomial expressions. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter III No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... I. Number Systems / Algebraic Operations B. Convert expressions from radical notations and vice versa.													NCTM Standard Pgs. 297-300		
Text Correlation 7.4 Pgs. 368-373								Rating 1		Additional Resources Negative Exponents? Activity					
Assessment 1. Evaluate: $125^{-1/3}$ (a) 25 (b) $\frac{1}{25}$ *(c) $\frac{1}{5}$ 2. Simplify: $x^{-1/2} \cdot x^{-1/7}$ (a) $x^{-1/14}$ *(b) $\frac{1}{x^{9/14}}$ (c) $\frac{1}{x^{1/14}}$ (d) $\frac{1}{x^{2/7}}$															

Algebra II: Functions and Relations (Powers, Roots and Radicals)																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
									I		M					
District Objective *Solve radical equations. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter III No. Days 3		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will...													NCTM Standard Pgs. 297-303			
I. Number Systems / Algebraic Operations B. Convert expressions from radical notations and vice versa.																
Text Correlation 7.5 Pgs. 374-380								Rating 1		Additional Resources Converting From Radical Form to Rational Exponents (and Vice-Versa), A Matching Game Activity; Puzzle #33 Activity						
Assessment																
<p>If $2^3 = \sqrt{N}$, what is N?</p> <p>(a) 8 (b) 16 (c) 32 (d) 64 (e) 128</p>																

Algebra II: Functions and Relations (Powers, Roots and Radicals)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I	E	M				
District Objective Find midpoints and distance between points of line segments.												PASS Process Standard		Quarter III No. Days 1	
○ ITBS ○ CRT ○ EXPLORE ○ EOI ● PLAN ● ACT ○ AP															
PASS Objective The student will...												NCTM Standard Pgs. 313-314			
Text Correlation 7.5 Pgs. 374-386						Rating 3		Additional Resources Finding Distances and Midpoints Activity							
Assessment															
1. Find the distance between the points $A(4, 6)$ and $B(-1, 2)$.															
(a) 4 (b) 5 (c) 6 *(d) $\sqrt{41}$ (e) $\sqrt{53}$															
2. Find the coordinates of the midpoint of the points $A(3, 4)$ and $B(-3, 6)$.															
(a) $(-3, 5)$ (b) $(-3, 4)$ *(c) $(0, 5)$ (d) $(0, 2)$															

Algebra II: Functions and Relations (Polynomials)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
District Objective Add, subtract, and multiply polynomials.												PASS Process Standard I A IV D		Quarter III No. Days 2	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...												NCTM Standard Pgs. 297-300			
II. Functions and Relations C. Solve quadratic equations by 1. factoring															
Text Correlation 9.1 Pgs. 456-462								Rating 1		Additional Resources Using Algebra Tiles to Factor Activity; Factoring/Grouping Activity					
Assessment															
1. If $a = x + 2y$ and $b = 3x - y$, which of the following expresses $a^2 + b$ in terms of x and y ? (a) $x^2 + y^2 + 6xy$ (b) $x^2 + 4y^2 + 3x - y$ *(c) $x^2 + 4xy + 4y^2 + 3x - y$ (d) $9x^2 - 6xy + y^2 + x + 2y$ (e) $16x^2 + 8xy + y^2$															
2. b $x + 2$ g $(x - 1)$ is equivalent to: (a) $20x^2$ (b) $8x + 1$ (c) $15x^2 - 2$ (d) $8x^2 + 4x + 1$ (e) $15x^2 + 7x - 2$															

Algebra II: Functions and Relations (Polynomials)																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
									I		M					
District Objective *Factor and solve polynomial equations. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter III No. Days 5		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will... II. Functions and Relations C. Solve quadratic equations by: 2. factoring														NCTM Standard Pgs. 291-292		
Text Correlation 9.3 Pgs. 473-479						Rating 3		Additional Resources Factoring Game Activity; Rational Rummy Card Game Activity								
Assessment The equation $10w^2 + 17w - 20 = 0$ has what types of numbers as its two solutions? (a) Two negative real numbers *(b) One positive real number and one negative real number (c) Two positive real numbers (d) One negative real number and zero (e) One positive real number and zero																

Algebra II: Functions and Relations (Polynomials)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
District Objective Divide polynomial expressions.												PASS Process Standard		Quarter III No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...												NCTM Standard Pgs. 291-292			
Text Correlation 9.4, Pgs. 480-486		Rating 1		Additional Resources Synthetic Division Activity; Dividing Polynomials Activity; Dividing Two Polynomials Activity; www.tpub.com/math1/10h.htm www.epsb.edmonton.ab.ca/schools/crestwood/rational_expressions_4.1.html school.discovery.com/homeworkhelp/webmath/polydiv1.html											
Assessment															
1. Divide by using synthetic division: $(-9x^2 + 6x^3 + 7 - 6x) \div (3x - 3)$															
(a) $2x^2 + x + 3 - \frac{2}{3x - 3}$				(b) $2x^2 - x - 2 + \frac{1}{3x - 3}$											
*(c) $2x^2 - x - 3 - \frac{2}{3x - 3}$				(d) $2x^2 + x + 2 + \frac{1}{3x - 3}$											
2. Divide: $(x^3 + x + 4) \div (x + 2)$.															
(a) $x^2 - x - 2 + \frac{8}{x + 2}$				*(b) $x^2 - 2x + 5 - \frac{6}{x + 2}$											
(c) $x^2 - x + 6 - \frac{12}{x + 2}$				(d) $x^2 - 2x - 3 + \frac{11}{x + 2}$											
3. Use long division. Write the result in fractional form. $(4x^4 + 2x^3) \div (2x^2 - 3)$															
ANSWER: $2x^2 + x + 3 + \frac{3x + 9}{2x^2 - 3}$															

Algebra II: Functions and Relations (Polynomials)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M			
District Objective *Find rational zeros and the connection of zeros, factors, and solutions. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter III No. Days 4	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations D. Use the relationship between the x -intercepts (zeros) of a quadratic function and the roots of a quadratic equation to solve problems.													NCTM Standard Pgs. 291-292		
Text Correlation 9.5 Pgs 488-493 9.6 Pgs. 494-500								Rating 2		Additional Resources Algebra Wars: Finding Rational Zeros Activity; Roots of a Polynomial Equation Activity					
Assessment 1. Which of the following is one root of $x^2 - 4x + 5 = 0$? (a) $4 - i$ (b) $2 - i$ (c) $2 + 2i$ (d) $3i$ (e) $2 - 2i$ SOLUTION: The correct answer is (b). Using the quadratic formula with $a = 1$, $b = -4$, and $c = 5$, we have: $x = \frac{-(-4) \pm \sqrt{4^2 - 4(1)(5)}}{2(1)} = \frac{4 \pm \sqrt{16 - 20}}{2} = \frac{4 \pm \sqrt{-4}}{2} = \frac{4 \pm 2i}{2}$ Dividing each term in the numerator by the denominator 2 gives us $x = 2 \pm i$. Since we can choose either + or -, we see that $2 - i$ is one root.															

Algebra II: Data Analysis, Statistics and Probability															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E	M	M	
District Objective Analyze data using measures of dispersion.												PASS Process Standard V C		Quarter III No. Days 2	
○ ITBS ○ CRT ○ EXPLORE ○ EOI ○ PLAN ○ ACT ○ AP															
PASS Objective The student will... III. Data Analysis, Statistics, and Probability C. Analyze and synthesize data using measures of central tendency and standard deviation .														NCTM Standard Pgs. 329-331	
Text Correlation 9.7 Pgs. 501-507								Rating 1		Additional Resources Using Standard Deviation, Part 1 and Part 2 Activities; www.crpc.rice.edu/CRPC/GT/bchristo/lessons/StanDev1.htm 1					
Assessment Find the standard deviation for the given data: 1, 6, 7, 15, 11 (a) 22.40 (b) 40.00 *(c) 4.73 (d) 6.32															

Algebra II: Functions and Relations (Conics)																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
									I		E	E		M		
District Objective *Identify, graph, and write equations of parabolas. <i>*Critical to success in next course.</i>												PASS Process Standard III B		Quarter III No. Days 2		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will... II. Functions and Relations F. Identify, graph, and write equations of the conic sections.													NCTM Standard Pgs. 291-292			
Text Correlation 11.1 Pgs. 570-575						Rating 1		Additional Resources The Coin Fountain Activity; Parabola Paper Folding Activity								
Assessment 1. Write an equation of the parabola with its vertex at the origin if its focus is at (5, 0). (a) $y = \frac{1}{2}x^2$ *(b) $x = \frac{1}{20}y^2$ (c) $x = -5y^2$ (d) $x = 5y^2$																

Algebra II: Functions and Relations (Conics)																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
											I	E		M		
District Objective Identify the equation of conic sections in standard form.												PASS Process Standard II B		Quarter III No. Days 3		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will...													NCTM Standard Pgs. 314-315			
II. Functions and Relations F. Identify, graph, and write the equations of the conic sections.																
Text Correlation 11.6 Pgs. 606-613							Rating 1		Additional Resources Bubble Lab Activity; Algebra Wars: Conic Sections Activity; Crazy Conics Card Game Activity;							
Assessment																
1. Identify the following curve: $36x^2 = 9 + 4y^2$ *(a) hyperbola (b) ellipse (c) circle (d) parabola 2. Classify the conic as a circle, an ellipse, a hyperbola, or a parabola. $5x^2 - 7y^2 - 3x + 7y - 14 = 0$ ANSWER: Hyperbola 3. Identify the conic as a circle, an ellipse, a hyperbola, or a parabola. $x^2 - 9y + 3x - 7 = 0$ ANSWER: Parabola 4. Classify the conic as a circle, an ellipse, a hyperbola, or a parabola. $5y^2 + 4x^2 + 2y - 7x - 4 = 0$ ANSWER: Ellipse																

Algebra II: Functions and Relations (Rational Functions)																
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal	
									I		M					
District Objective Simplify, multiply, divide, add, and subtract rational functions. (Optional)												PASS Process Standard		Quarter IV No. Days 12		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
PASS Objective The student will...												NCTM Standard Pgs. 297-300				
Text Correlation 10.3 Pgs. 533-539 10.4 Pgs. 541-547 10.5 Pgs. 548-554								Rating 1		Additional Resources						
Assessment																
<p>1. For all $x > 0$, which of the following is equal to $\frac{x^2 - 9}{x^2 + 9x + 18}$?</p> <p>(a) $-\frac{1}{18}$ (b) $-\frac{1}{x+2}$ (c) $-\frac{1}{x+18}$ (d) $1-\frac{1}{x}$ *(e) $\frac{x-3}{x+6}$</p> <p>2. Simplify: $\frac{\frac{2}{x} + \frac{3}{y}}{1 - \frac{1}{x}}$</p> <p>(a) $\frac{1+xy}{x-1}$ (b) xy (c) $\frac{2y+3x}{y(x-1)}$ (d) $\frac{3y+2x}{x(y-1)}$ (e) $\frac{xy}{x-1}$</p>																

Algebra II: Functions and Relations (Exponential and Logarithmic)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E		M	M
District Objective *Compare exponential functions and graphs.												PASS Process Standard		Quarter IV No. Days 1	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...														NCTM Standard Pgs. 297-300	
II. Functions and Relations *K. Use technology to interpret and graph exponential and logarithmic functions (e.g., compound growth, population, decibels).															
Text Correlation 8.2 Pgs. 405-411						Rating 2		Additional Resources Exponential Functions Activity; Logarithmic Functions $y = \log_b(x)$ Activity							
Assessment															
1. Graph the function: $f(x) = \frac{e^x - 1}{e^x + 1}$															
(a)					(b)					*(c)					

Algebra II: Functions and Relations (Exponential and Logarithmic)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E		M	
District Objective *Solve equations involving logarithmic functions. <i>*Critical to success in next course.</i>												PASS Process Standard V A		Quarter IV No. Days 1	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will...												NCTM Standard Pgs. 297-300			
II. Functions and Relations *K. Use technology to interpret and graph exponential and logarithmic functions (e.g., compound growth, population, decibels).															
Text Correlation 8.2 Pgs. 405-411						Rating 2		Additional Resources Human Number Line Activity							
Assessment 1. If $\log_x 125 = 3$, what is x ? SOLUTION: This statement is equivalent to $x^3 = 125$, for which we can see by inspection that $x = 5$.															

Algebra II: Functions and Relations (Exponential and Logarithmic)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E		M	
District Objective *Simplify and evaluate expressions using properties of logarithms. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter IV No. Days 3	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations *K. Use technology to interpret and graph exponential and logarithmic functions (e.g., compound growth, population, decibels).													NCTM Standard Pgs. 297-300		
Text Correlation 8.3 Pgs. 413-418								Rating 2		Additional Resources Algebra Wars: Evaluating Logarithms Activity; Worksheet on Solving Exponential Equations Activity					
Assessment 1. If $\log_2(x-1) + \log_2(x+1) = 3$, then $x =$ (a) -1 (b) 1 (c) 2 *(d) 3 (e) 4															

Algebra II: Functions and Relations (Exponential and Logarithmic)															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E		M	
District Objective *Find common natural logarithms. <i>*Critical to success in next course.</i>											PASS Process Standard		Quarter IV No. Days 2		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations *K. Use technology to interpret and graph exponential and logarithmic functions (e.g., compound growth, population, decibels).													NCTM Standard Pgs. 297-300		
Text Correlation 8.4 Pgs. 420-425 8.5 Pgs. 426-431					Rating 2		Additional Resources Exponential Growth-Rumor Spreading Activity								
Assessment 1. Find $\ln 808$. Round your answer to four decimal places. (a) 7.6946 (b) -7.6946 (c) -6.6946 *(d) 6.6946 2. Evaluate $5 \ln(7.4)$. ANSWER: 10.0007 3. Find $\ln 0.752$. (a) -0.2850 (b) -0.1238 (c) 0.2850 (d) 0.1238															

Algebra II: Functions and Relations (Exponential and Logarithmic)
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K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal		
											I	E		M			
District Objective *Identify inverse properties of exponents and logarithms. <i>*Critical to success in next course.</i>												PASS Process Standard		Quarter IV No. Days 2			
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																	
PASS Objective The student will... II. Functions and Relations *J. Use technology to apply the inverse relationship between exponential and logarithmic functions to solve problems.													NCTM Standard Pgs. 297-300				
Text Correlation 8.6 Pgs. 434-440						Rating 2		Additional Resources Connections to Logarithms: Inverse of a Function Activity;									
Assessment Let a be a positive real number, $a \neq 1$. <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Base a 1. $\log_a a^x = x$ 2. $a^{\log_a x} = x$ </td> <td style="width: 50%; vertical-align: top;"> Base e $\ln e^x = x$ $e^{\ln x} = x$ </td> </tr> </table> 1. Solve $e^x = 72$. <i>SOLUTION:</i> $e^x = 72$ <i>Rewrite original equation</i> $\ln e^x = \ln 72$ <i>Take ln of both sides</i> $x = \ln 72$ <i>Simplify</i> $x \approx 4.277$ <i>Use a calculator</i> The solution is $x = \ln 72$. Check this in the original equation.																Base a 1. $\log_a a^x = x$ 2. $a^{\log_a x} = x$	Base e $\ln e^x = x$ $e^{\ln x} = x$
Base a 1. $\log_a a^x = x$ 2. $a^{\log_a x} = x$	Base e $\ln e^x = x$ $e^{\ln x} = x$																
Algebra II: Functions and Relations (Exponential and Logarithmic)																	

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E		M	
District Objective *Solve exponential and logarithmic equations. <i>*Critical to success in next course.</i>											PASS Process Standard		Quarter IV No. Days 2		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... II. Functions and Relations *K. Use technology to interpret and graph exponential and logarithmic functions (e.g., compound growth, population, decibels).													NCTM Standard Pgs. 297-300		
Text Correlation 8.6 Pgs. 434-440							Rating		Additional Resources Puzzle # 55 Activity						
Assessment 1. If $10^x = 31.4$, then $x =$ (a) 0 (b) 1 *(c) 1.5 (d) 3.14 (e) 31.4															
Algebra II: Data Analysis, Statistics and Probability															

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E	M	M	
District Objective Identify arithmetic and geometric series and sequences.											PASS Process Standard		Quarter IV No. Days 8		
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... III. Data Analysis, Statistics, and Probability F. Identify arithmetic and geometric series and sequences (e.g., binomial expansion , Pascal’s Triangle).													NCTM Standard Pgs. 292-294		
Text Correlation 12.1 - 12.3 Pgs. 622-644				Rating		Additional Resources Pascal’s Triangle Activity; Puzzle #53 Activity; Worksheet 12.1-12.2 Activity; Math Analysis Arithmetic/Geometric Series Activity; An Arithmetic Sequence Activity; Sequences with Grid Squares Activity; Algebra II Tic Tac Toe Evaluate the Sigma Sums Activity									
Assessment 1. What is the sum of the first ten terms of the sequence $-5, -2, 1, 4, \dots$? (a) 17.5 (b) 22 (c) 40.5 (d) 85 (e) 135 SOLUTION: The correct answer is (d). The first term is -5 . The common difference, $d = 3$. Hence, the tenth (last) term is $-5 + 9(3) = 17$, and the first and last terms average 8.5. Therefore, the sum is $10(8.5) = 85$.															
Algebra II: Data Analysis, Statistics and Probability															

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	E	M		
District Objective Determine the number of combinations and permutations for an event.												PASS Process Standard		Quarter IV No. Days 6	
<input type="radio"/> ITBS <input type="radio"/> CRT <input type="radio"/> EXPLORE <input type="radio"/> EOI <input type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP															
PASS Objective The student will... III. Data Analysis, Statistics, and Probability E. Determine the number of combinations and permutations for an event.														NCTM Standard Pgs. 292-294	
Text Correlation 15.2-15.3 Pgs. 788-804								Rating 1		Additional Resources Combinations Activity; Permutations Activity					
Assessment 1. How many possible combinations of \$1 and/or \$5 bills could be in a cash register containing exactly \$20, in \$1 and/or \$5 bills? (a) 3 (b) 4 *(c) 5 (d) 10 (e) 20															

