

<b>Honors Algebra II: Number Systems / Algebraic Operations</b>																
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					
<b>District Objective</b> Manipulate basic algebraic expressions using order of operations and properties of real numbers.												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days 2</b>		
<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																
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b> Pgs. 291-294		
<b>I. Number Systems / Algebraic Operations</b> A. Define and perform <b>operations</b> on: 1. <b>real numbers</b>																
<b>Text Correlation</b> 1.1 -1.2 Pgs. 7-18							<b>Rating</b> 1		<b>Additional Resources</b> Worksheet 1.1, 1.2; Order of Operations Card Game Activity							
<b>Assessment</b>  Simplify: 1. $6 - [28 - (4 + 2)^2]$ 2. $-4[12 - 2(8 - 5)]$																

<b>Honors Algebra II: Data Analysis, Statistics and Probability</b>																
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				
<b>District Objective</b> Evaluate measures of central tendency.												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days</b> 1		
<input type="radio"/> ITBS <input type="radio"/> CRT <input checked="" type="radio"/> EXPLORE <input type="radio"/> EOI <input checked="" type="radio"/> PLAN <input checked="" type="radio"/> ACT <input type="radio"/> AP																
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b> Pgs. 327-329			
<b>III. Data Analysis, Statistics, and Probability</b> C. Analyze and synthesize data using measures of central tendency and standard deviation.																
<b>Text Correlation</b> 1.3 Pgs 19-26					<b>Rating</b> 1		<b>Additional Resources</b> Graphs and Measures of Central Tendency Activity; Organizing Data in a Box Plot Activity; Finding the Mean Using Hands-On Activities									
<b>Assessment</b>																
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																

<b>Honors Algebra II: Number Systems / Algebraic Operations</b>																
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					
<b>District Objective</b> *Solve routine two- and three-step linear equations having integer or decimal answers.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard III D</b>		<b>Quarter I</b> <b>No. Days</b> 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																
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b> Pgs. 300-302			
<b>Text Correlation</b> 1.4 Pgs. 27-30							<b>Rating</b> 1		<b>Additional Resources</b> Puzzle #3 Activity							
<b>Assessment</b>  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																

## Honors 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				
<b>District Objective</b> *1. Translate word expressions into mathematical expressions. *2. Solve real-world problems using first-degree equations.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b> I A II A		<b>Quarter</b> I <b>No. Days</b> 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															
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b> Pgs. 303-305		
<b>Text Correlation</b> 1.4 Pgs. 27-34								<b>Rating</b> 1		<b>Additional Resources</b> Problem Solving Strategies Activity; Literal Equations and Formulas Activity					
<b>Assessment</b>  The relationship between temperature expressed in degrees Fahrenheit ( $F$ ) and degrees Celsius ( $C$ ) is given by the formula $F = \frac{9}{5}C + 32$  1. If the temperature is 14 degrees Fahrenheit, what is it in degrees Celsius? *(a) -10            (b) -12            (c) -14            (d) -16            (e) -18															

<b>Honors Algebra II: Number Systems /Algebraic Operations</b> (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				
<b>District Objective</b> Solve absolute value and inequality equations and graph on a number line.												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days 3</b>		
<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																
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b> Pgs. 300-303		
<b>Text Correlation</b> 1.5, 1.6, 1.7 Pgs. 37-54				<b>Rating</b> 1		<b>Additional Resources</b> Worksheet 1.6; Open Sentences Activity; Inequality Card Game Activity; <a href="http://www.sosmath.com/algebra/inequalities/ineq03/ineq03.html">http://www.sosmath.com/algebra/inequalities/ineq03/ineq03.html</a>										
<b>Assessment</b>  Which of the following is a graph of the solution of the inequality $-x^2 + 5x - 6 < 0$ ?																
(a)				*(d)												
(b)				(e)												
(c)																

## Honors 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						
<b>District Objective</b> Define and distinguish between relations and functions.												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days</b> 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																	
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> G. Define and distinguish between <b>relations</b> and <b>functions</b> .												<b>NCTM Standard</b> Pgs. 297-300					
<b>Text Correlation</b> 2.1 Pgs. 64-71								<b>Rating</b> 1		<b>Additional Resources</b> <a href="http://library.thinkquest.org/2647/algebra/funcbasc.htm">library.thinkquest.org/2647/algebra/funcbasc.htm</a>							
<b>Assessment</b>  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) $\{(1, 3), (2, 3), (6, 3)\}$																	

## Honors 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				
<b>District Objective</b> *1. Use functional notation and specify domain and range.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> H. Use functional notation and specify <b>domain</b> and <b>range</b> .													<b>NCTM Standard</b> Pgs. 297-300		
<b>Text Correlation</b> 2.1 Pgs. 64-71								<b>Rating</b> 2		<b>Additional Resources</b> Puzzle #20 Activity; <a href="http://library.thinkquest.org/2647/algebra/funccasc.htm">library.thinkquest.org/2647/algebra/funccasc.htm</a>					
<b>Assessment</b>  1. Find the domain and the range of the relation $\{(5, 2), (0, -5), (-4, 1)\}$ . $D = \{5, 0, -4\}$ $R = \{2, -5, 1\}$  2. Letting $f(x) = x^2$ and $g(x) = x + 3$ , find each of the following: (a) $g(2)$ (b) $f(5)$ (c) $f(n+2)$  <b>SOLUTIONS:</b> (a) $g(2) = 2 + 3 = 5$ (b) $f(5) = 5^2 = 25$ (c) $f(n+2) = (n+2)^2 = n^2 + 4n + 4$															

<b>Honors Algebra II: Functions and Relations (Linear)</b>																
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					
<b>District Objective</b> *1. Identify and graph linear equations and inequalities. *2. Match linear graphs with their equations.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter I No. Days 4</b>		
<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																
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> B. Solve, analyze, and graph linear equations, inequalities, and systems.														<b>NCTM Standard</b> Pgs. 300-303		
<b>Text Correlation</b> 2.2 Pgs. 73-78 2.7 Pgs. 110-114								<b>Rating</b> 1		<b>Additional Resources</b> Worksheet 2.1-2.3; The Graph Game Activity						
<b>Assessment</b>  Graph: $x - 2y < -2$  (a) <span style="margin-left: 200px;">(b)</span>          (c) <span style="margin-left: 200px;">(d)</span>																

<b>Honors Algebra II: Functions and Relations (Linear)</b>																
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					
<b>District Objective</b> Determine slope and use properties of parallel and perpendicular lines.												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days</b> 2		
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ● PLAN   ● ACT   ○ AP																
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b> Pgs. 305-306		
<b>Text Correlation</b> 2.3 Pgs. 80-87						<b>Rating</b> 1		<b>Additional Resources</b> Math Terms Activity; Slope Activity								
<b>Assessment</b>																
<p>1. Find the equation of a straight line parallel to the line with equation <math>y = 2x - 5</math> that passes through the point <math>(-1, 4)</math>. ANSWER: <math>y = 2x + 6</math></p> <p>2. Find the equation of a straight line perpendicular to the line with equation <math>y = \frac{2}{3}x - 4</math> that has <math>y</math>-intercept 9. SOLUTION: The given line has slope <math>\frac{2}{3}</math>. Any line perpendicular to it must have as its slope the negative reciprocal of <math>\frac{2}{3}</math>, that is, <math>-\frac{3}{2}</math>. Since the line we want has <math>y</math>-intercept 9, its equation must be <math>y = -\frac{3}{2}x + 9</math>. It is possible to multiply this equation by 2 to get <math>2y = -3x + 18</math>, which could also be written <math>3x + 2y = 18</math>.</p> <p>3. Find the slope of a line containing the points <math>(5, 7)</math> and <math>(-3, 4)</math> SOLUTION: <math>m = \frac{4-7}{-3-5} = \frac{-3}{-8} = \frac{3}{8}</math></p>																

<b>Honors Algebra II: Functions and Relations (Linear)</b>																
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					
<b>District Objective</b> Write equations of lines.												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days</b> 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																
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b> Pgs. 297-300 Pgs. 313-314			
<b>Text Correlation</b> 2.4 Pgs. 88-94								<b>Rating</b> 2		<b>Additional Resources</b> Graphing Lines of the Form $y = mx + b$ Activity; Graphing Other Lines Activity; Bouncing Ball Activity; Name That Equation Activity						
<b>Assessment</b>																
<p>1. Write an equation of a line having slope 4 and <math>y</math> - intercept <math>-3</math>.</p> <p>(a) <math>x = 4y + 3</math>   (b) <math>y = \frac{1}{4}x + 3</math>   (c) <math>y = 4x + 3</math>   *(d) <math>y = 4x - 3</math></p> <p>2. Find an equation of the line, in slope - intercept form, that passes through the point <math>(2, -3)</math> and has slope 3.</p> <p>(a) <math>y = -3x - 9</math>   (b) <math>y = 3x + 9</math>   (c) <math>y = -3x + 9</math>   *(d) <math>y = 3x - 9</math></p>																

<b>Honors Algebra II: Data Analysis, Statistics &amp; Probability</b>															
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			
<b>District Objective</b> Interpret a model or equation and use to make predictions.												<b>PASS Process Standard</b> II C IV A V B		<b>Quarter I</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b>	
<b>III. Data Analysis, Statistics, and Probability</b> 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.															
<b>Text Correlation</b> 2.5, Pgs. 95-102								<b>Rating</b> 1		<b>Additional Resources</b> Best Fit Lines Activity					
<b>Assessment</b>  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															

## Honors 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																					
<b>District Objective</b> Collect data involving two variables, display on a scatter plot and find the best fit equation.												<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days</b> 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																																	
<b>PASS Objective</b> The student will... <b>III. Data Analysis, Statistics, and Probability</b> A. Collect data involving two variables and display on a <b>scatter plot</b> , 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 <b>scatter plot</b> and several linear, quadratic or exponential equations, which one is the best fit?).														<b>NCTM Standard</b> Pgs. 325-329																			
<b>Text Correlation</b> 2.5 Pgs. 95-99								<b>Rating</b> 1		<b>Additional Resources</b> Activity for Scatter Plot Graphs; Best Fit Lines Activity																							
<b>Assessment</b>  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="display: inline-table; 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>																<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																									
SOLUTION: $y = 1.25x + 1$																																	



## Honors Algebra II: Functions and Relations (Systems)

K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
<b>District Objective</b> Solve systems of equations and inequalities by graphing.												<b>PASS Process Standard</b> I B III A		<b>Quarter</b> I <b>No. Days</b> 8	
<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															
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b> Pgs. 300-303	
<b>Text Correlation</b> 3.1 Pgs. 126-132								<b>Rating</b> 1		<b>Additional Resources</b> Real World Systems; Solving Systems by Graphing Activity; Graphing Systems of Equations Activity					
<b>Assessment</b>  Solve the following system of equations for $x$ and $y$ .  $\begin{cases} x + 2y = 0 \\ x + 2y = 1 \end{cases}$															

## Honors 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				
<b>District Objective</b> Solve systems of equations algebraically.												<b>PASS Process Standard</b> I B III A		<b>Quarter I</b> <b>No. Days</b>	
<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															
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b> Pgs. 300-303		
<b>Text Correlation</b> 3.2 Pgs. 133-138								<b>Rating</b> 1		<b>Additional Resources</b> Activity for Solving Systems of Equations; Problem Solving Using Linear Systems Activity					
<b>Assessment</b>															

## Honors 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			
<b>District Objective</b> Solve systems of equations using Cramer's Rule.											<b>PASS Process Standard</b>		<b>Quarter I</b> <b>No. Days 3</b>		
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ○ ACT   ○ AP															
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b> Pg. 294		
<b>Text Correlation</b> 3.3 Pgs 141-146					<b>Rating</b> 2		<b>Additional Resources</b> Puzzle #62 Activity								
<b>Assessment</b>  Use Cramer's Rule to solve for x: $\begin{cases} 5x - 4y = -4 \\ x + 2y = 4 \end{cases}$															
(a) $\frac{8}{7}$			(b) $-\frac{12}{7}$			(c) $\frac{12}{7}$			*(d) $\frac{4}{7}$						

## Honors 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				
<b>District Objective</b> Solve systems of linear inequalities.												<b>PASS Process Standard</b> I B III A		<b>Quarter</b> I <b>No. Days</b> 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															
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b>		
<b>Text Correlation</b> 3.4 Pgs. 148-151								<b>Rating</b> 1		<b>Additional Resources</b> Graphing Systems of Inequalities Activity					
<b>Assessment</b>															

## Honors 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					
<b>District Objective</b> Solve systems of equations in three variables.												<b>PASS Process Standard</b> I B III A		<b>Quarter</b> I <b>No. Days</b> 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																	
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b>			
<b>Text Correlation</b> 3.7 Pgs. 165-170							<b>Rating</b> 1		<b>Additional Resources</b> Puzzle #44 Activity								
<b>Assessment</b>  Solve the system of equations for $x$ , $y$ , and $z$ .  $6x - y - 3z = 2$ $-3x + y - 3z = 1$ $-2x + 3y + z = -6$																	

## Honors 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	
<b>District Objective</b> *Add, subtract, and multiply matrices.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>I. Number Systems / Algebraic Operations</b> <b>C. Operate with matrices to solve problems:</b> 1. Add, subtract, and multiply matrices.													<b>NCTM Standard</b> Pg. 294		
<b>Text Correlation</b> 4.2, 4.3 Pgs. 194-204								<b>Rating</b> 1		<b>Additional Resources</b> Organizing Data in Matrices Activity; The Bermuda Triangle and the Devil's Sea Activity					
<b>Assessment</b>  If $A = \begin{bmatrix} 2 & 6 \\ 9 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 3 & -2 \\ 1 & 5 & 4 \end{bmatrix}$ then the entry in the second row, third column of $AB$ will be:  *(a) -11            (b) -1            (c) 1            (d) 11            (e) 20															

# Honors 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			
<b>District Objective</b> Find the inverse and evaluate a determinant of a matrix.												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 2	
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ○ ACT   ○ AP															
<b>PASS Objective</b> The student will... <b>I. Number Systems / Algebraic Operations</b> C. Operate with matrices to solve problems: 2. Find the inverse and determinant of a matrix												<b>NCTM Standard</b> Pg. 294			
<b>Text Correlation</b> 4.4, 4.5 Pgs. 205-218				<b>Rating</b> 1		<b>Additional Resources</b> Vanna Red Activity; Finding and Verifying Inverse Matrices Activity									
<b>Assessment</b>															
1. Find the inverse of the matrix (if it exists) $\begin{bmatrix} 4 & 3 \\ M & B \\ N & -5 \end{bmatrix}$															
(a) $A^{-1}$ does not exist.      (b) $\begin{bmatrix} 6 & 1 \\ M & B \\ N & 4 \end{bmatrix}$ *(c) $\begin{bmatrix} 5 & 3 \\ M & B \\ N & -4 \end{bmatrix}$ (d) $\begin{bmatrix} 4 & 1 \\ M & B \\ N & 3 \end{bmatrix}$															
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															

<b>Honors Algebra II: Data Analysis, Statistics and Probability</b>															
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			
<b>District Objective</b> Identify outliers in a box and whisker plot and describe their impact on representations of data.												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b> Pgs. 325-327	
<b>III. Data Analysis, Statistics, and Probability</b> 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 <b>scatter plot</b> ).															
<b>Text Correlation</b> 4.8 Pgs. 235-244				<b>Rating</b> 1		<b>Additional Resources</b> Jump! Activity									
<b>Assessment</b>															
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															

# Honors 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				
<b>District Objective</b> *Use properties of exponents to simplify polynomial expressions.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>I. Number Systems / Algebraic Operations</b> <b>B. Convert expressions</b> from radical notations and vice versa.												<b>NCTM Standard</b> Pgs. 297-300			
<b>Text Correlation</b> 5.1 Pgs. 254-260								<b>Rating</b> 1		<b>Additional Resources</b> Negative Exponents? Activity					
<b>Assessment</b>  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. $\frac{E}{G}x^6\frac{F}{K} =$ (a) $x^8$ (b) $x^{12}$ (c) $\frac{1}{4}x^8$ *(d) $\frac{1}{4}x^{12}$ (e) $\frac{1}{4}x^{36}$															

<b>Honors Algebra II: Functions and Relations (Polynomials)</b>															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
<b>District Objective</b> Add, subtract, and multiply polynomials.												<b>PASS Process Standard</b> I A IV D		<b>Quarter II</b> <b>No. Days</b> 10	
<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															
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b> Pgs. 297-300	
<b>Text Correlation</b> 5.2 Pgs. 261-266 5.4 Pgs. 274-279								<b>Rating</b> 2		<b>Additional Resources</b> Using Algebra Tiles to Factor Activity					
<b>Assessment</b>															
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. $3x + 2(3x - 1)$ is equivalent to: (a) $20x^2$ (b) $8x + 1$ (c) $15x^2 - 2$ (d) $8x^2 + 4x + 1$ (e) $15x^2 + 7x - 2$															

<b>Honors Algebra II: Functions and Relations (Polynomials)</b>															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				
<b>District Objective</b> Divide polynomial expressions.												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 3	
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ○ ACT   ○ AP															
<b>PASS Objective</b> The student will...													<b>NCTM Standard</b> Pgs. 297-300		
<b>Text Correlation</b> 5.3 Pgs. 267-273		<b>Rating</b> 1		<b>Additional Resources</b> Synthetic Division Activity; <a href="http://www.tpub.com/math1/10h.htm">www.tpub.com/math1/10h.htm</a> <a href="http://school.discovery.com/homeworkhelp/webmath/polydiv1.html">school.discovery.com/homeworkhelp/webmath/polydiv1.html</a> <a href="http://www.epsb.edmonton.ab.ca/schools/crestwood/rational_expressions_4.1.html">www.epsb.edmonton.ab.ca/schools/crestwood/rational_expressions_4.1.html</a>											
<b>Assessment</b>															
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: $2x^2 + x + 3 + \frac{3x + 9}{2x^2 - 3}$															

## Honors 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		M				
<b>District Objective</b> *Use properties of rational exponents to simplify polynomial expressions.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>I. Number Systems / Algebraic Operations</b> B. Convert expressions from radical notations and vice versa.													<b>NCTM Standard</b> Pgs. 297-300		
<b>Text Correlation</b> 5.7 Pgs. 296-302								<b>Rating</b> 1		<b>Additional Resources</b> Exploring Radical Expressions Activity; Developing the Laws of Exponents Activity					
<b>Assessment</b>  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) $\frac{1}{x^{2/7}}$															

## Honors 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		M				
<b>District Objective</b> *Solve radical equations.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>I. Number Systems / Algebraic Operations</b> B. Convert expressions from radical notations and vice versa.												<b>NCTM Standard</b> Pgs. 297-303			
<b>Text Correlation</b> 5.8 Pgs. 303-309								<b>Rating</b> 1		<b>Additional Resources</b> On the Farm Color Activity Sheet; Converting from Radical Form to Rational Exponents (and Vice-Versa): A Matching Game Activity; Puzzle #33 Activity					
<b>Assessment</b>  If $2^3 = \sqrt{N}$ , what is $N$ ?  (a) 8 (b) 16 (c) 32 (d) 64 (e) 128															

# Honors 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			
<b>District Objective</b> *1. Simplify, add, subtract, and multiply complex numbers. 2. Solve equations using complex numbers.  <i>*Critical to success in next course.</i>											<b>PASS Process Standard</b>		<b>Quarter II No. Days 4</b>		
<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															
<b>PASS Objective</b> The student will... <b>I. Number Systems / Algebraic Operations</b> A. Define and perform <b>operations</b> on: 2. <b>Complex numbers</b>													<b>NCTM Standard</b> Pgs. 291-292		
<b>Text Correlation</b> 5.9 Pgs. 310-321					<b>Rating</b> 1		<b>Additional Resources</b> The Story of $i$ ; Puzzle #29 Activity; The Complex Number System Activity								
<b>Assessment</b>  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, $zw = \frac{z}{w} = (24 - 7i) - i = 24 - 8i$ .															

<b>Honors Algebra II: Functions and Relations (Quadratic Equations)</b>																
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		
<b>District Objective</b> *Identify characteristics of graphs based on general equations. (e.g., $y = ax^2 + bx + c$ ).  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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																
<b>PASS Objective</b> The student will...														<b>NCTM Standard</b> Pgs. 354-358		
<b>II. Functions and Relations</b> C. Solve <b>quadratic equations</b> by 1. graphing																
<b>Text Correlation</b> 6.1 Pgs. 334-339								<b>Rating</b> 1		<b>Additional Resources</b> Equations of Parabolas 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  $(2, -1)$ .

## Honors 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	E	M				
<b>District Objective</b> *Graph quadratic equations.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> C. Solve quadratic equations by: 2. factoring												<b>NCTM Standard</b> Pgs. 291-292			
<b>Text Correlation</b> 6.1 Pgs. 334-340								<b>Rating</b> 1		<b>Additional Resources</b> Factoring/Grouping Activity; Group Factoring Activity; Factoring Fun Activity; Factoring Game Activity; <a href="http://exploremath.com/activities/index.cfm">exploremath.com/activities/index.cfm</a>					

**Assessment**

Sketch the graph of the equation  $y = \frac{1}{2}x^2$ .

(a)

(b)

(c)

(d)

**Honors 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				
<b>District Objective</b> *Find and interpret the maximum and minimum (vertex) of a quadratic function.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>III. Functions and Relations</b> E. Find or interpret the maximum and minimum value and the <b>y-intercept</b> of a <b>quadratic</b> function.												<b>NCTM Standard</b> Pgs. 291-292			

<b>Text Correlation</b> 6.1 Pgs. 334-339	<b>Rating</b> 2	<b>Additional Resources</b> Work Together Activity; The Box Problem Activity; Area of Rectangle Activity; Optimization Activity
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**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

**Honors 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				
<b>District Objective</b> *Factor and solve polynomial equations.  <i>*Critical to success in next course.</i>												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will...												<b>NCTM Standard</b> Pgs. 291-292			
<b>II. Functions and Relations</b> C. Solve <b>quadratic equations</b> by: 2. factoring															

<b>Text Correlation</b> 6.2 Pgs. 341-345	<b>Rating</b> 1	<b>Additional Resources</b> Factoring Game Activity
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**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

**Honors 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			
<b>District Objective</b> Solve quadratic equations by completing the square.												<b>PASS Process Standard</b>		<b>Quarter II</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will...												<b>NCTM Standard</b> Pgs. 291-292			
<b>II. Functions and Relations</b> C. Solve <b>quadratic equations</b> by 3. completing the square															

<b>Text Correlation</b> 6.3 Pgs. 346-352	<b>Rating</b> 1	<b>Additional Resources</b> Completing the Square Activity
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**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  $\frac{3 - \sqrt{5}}{4}$

**Honors 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  
4**

ITBS    CRT    EXPLORE    EOI    PLAN    ACT    AP

<b>PASS Objective</b> The student will... <b>II. Functions and relations</b> C. Solve <b>quadratic equations</b> by 4. <b>quadratic formula</b>	<b>NCTM Standard</b> Pgs. 291-292
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<b>Text Correlation</b> 6.4 Pgs. 353-364	<b>Rating</b> 1	<b>Additional Resources</b> The Coin Fountain Project Activity; Solving Quadratic Equations; <a href="http://www.gomath.com/exercises2/quadratic.asp">http://www.gomath.com/exercises2/quadratic.asp</a>
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<b>Assessment</b>  <i>If <math>6x^2 - x - 12 = 0</math>, what is the smallest integer greater than <math>x</math>?</i> SOLUTION: Use the quadratic formula to solve for $x$ . ANSWER: (2 is the smallest integer greater than $x$ ).
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## Honors 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		E	M			

<b>District Objective</b> Identify the parent graph of the <b>function</b> $y = x^2$ and predict the effects of <b>transformations</b> on the parent graph.	<b>PASS Process Standard</b>	<b>Quarter III</b> <b>No. Days</b> 1
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<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
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<b>PASS Objective</b> The student will...	<b>NCTM Standard</b> Pgs. 300-303
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<b>Text Correlation</b> 5.7 Pg. 271 6.7 Pgs. 376-383	<b>Rating</b> 1	<b>Additional Resources</b> Graphing Quadratic Inequalities Activity; Quadratic Inequalities and the Quadratic Formula Activity; <a href="http://exploremath.com/activities/index.cfm">exploremath.com/activities/index.cfm</a> <a href="http://www.gpc.peachnet.edu/~mhall/online/math0099/notes/test3/ch5bdoc/ch75c.htm">www.gpc.peachnet.edu/~mhall/online/math0099/notes/test3/ch5bdoc/ch75c.htm</a>
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<b>Assessment</b>															
Graph $y > -x^2 + 4x - 4$															
(a)				(b)				(c)				(d)			

**Honors 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	
<b>District Objective</b> Analyze data using measures of dispersion.											<b>PASS Process Standard</b> V C		<b>Quarter III</b> <b>No. Days</b> 2		
<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															

<b>PASS Objective</b> The student will... <b>III. Data Analysis, Statistics, and Probability</b> C. Analyze and synthesize data using measures of central tendency and <b>standard deviation</b> .	<b>NCTM Standard</b> Pgs. 329-331
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<b>Text Correlation</b> 6.8 Pgs. 384-391	<b>Rating</b> 1	<b>Additional Resources</b> <a href="http://www.crpc.rice.edu/CRPC/GT/bchristo/lessons/StanDev1.htm">www.crpc.rice.edu/CRPC/GT/bchristo/lessons/StanDev1.htm</a> <u>1</u>
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<b>Assessment</b>  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
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<b>Honors Algebra II: Number Systems / Algebraic Operations</b> (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					
<b>District Objective</b> Find midpoints and distance between points of line segments.												<b>PASS Process Standard</b>		<b>Quarter III</b> <b>No. Days</b> 1		

○ ITBS ○ CRT ○ EXPLORE ○ EOI ● PLAN ● ACT ○ AP															
PASS Objective The student will...													NCTM Standard Pgs. 313-314		
Text Correlation 7.1 Pgs. 408-414					Rating 1		Additional Resources Finding Distances and Midpoints Activity								
<b>Assessment</b>  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) $(0, 2)$															
<b>Honors Algebra II: Functions and Relations (Conics)</b>															
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															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> F. Identify, graph, and write equations of the conic sections.														<b>NCTM Standard</b> Pgs. 314-315	
<b>Text Correlation</b> 7.2 Pgs. 415-422				<b>Rating</b> 1		<b>Additional Resources</b> Parabola Paper Folding Activity									
<b>Assessment</b>  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) $x = 5y^2$															
<b>Honors Algebra II: Functions and Relations (Conics)</b>															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
										I	M				
<b>District Objective</b> Identify, graph, and write equations of circles.												<b>PASS Process Standard</b>		<b>Quarter III</b> <b>No. Days</b>	







<b>District Objective</b> Identify equations of conic sections in standard form.										<b>PASS Process Standard</b> II B			<b>Quarter III</b> <b>No. Days</b> 3		
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ○ ACT   ○ AP															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> F. Identify, graph, and write the equations of the conic sections.												<b>NCTM Standard</b> Pgs. 314-315			
<b>Text Correlation</b> 7.6 Pgs. 450-455				<b>Rating</b> 1		<b>Additional Resources</b> Bubble Lab Activity; Algebra Wars: Conic Sections Activity; Crazy Conics Activity									
<b>Assessment</b>  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															
<b>Honors Algebra II: Functions and Relations (Systems)</b>															
K	1	2	3	4	5	6	7	Pre-Alg	Alg I	Geom	Alg II	MA	P & S	Pre-Cal	AP Cal
											I	M			

<b>District Objective</b> Find rational zeros and the connection of zeros, factors and solutions.										<b>PASS Process Standard</b> III C IV B			<b>Quarter III</b> <b>No. Days</b> 4		
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ● ACT   ○ AP															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> D. Use the relationship between the $x$ -intercepts (zeros) of a <b>quadratic</b> function and the roots of a <b>quadratic equation</b> to solve problems.										<b>NCTM Standard</b> Pgs. 291-292 Pgs. 297-300					
<b>Text Correlation</b> 8.1, Pgs. 478-483 8.2-8.5 (Optional) Pgs. 485-513				<b>Rating</b> 1		<b>Additional Resources</b> Algebra Wars: Finding Rational Zeros Activity; Roots of a Polynomial Equation Activity									
<b>Assessment</b>  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.															
<b>Honors Algebra II: Functions and Relations</b>															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
											I	M			

<b>District Objective</b> *1. Find the inverse of a function and graph. *2. Find the composition of functions.  <i>*Critical to success in next course.</i>										<b>PASS Process Standard</b> III C IV B			<b>Quarter III</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> 1. Find the inverse of a <b>function</b> and graph.												<b>NCTM Standard</b> Pgs. 297-300			
<b>Text Correlation</b> 8.7 Pgs. 523-528 8.8 Pgs. 532-538				<b>Rating</b> 1		<b>Additional Resources</b> Function Project Activity; Inverse Relations Activity									
<b>Assessment</b>  1. 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) $\frac{1}{3}x + \frac{1}{2}$  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) $g(f(x))$ <b>SOLUTIONS:</b> (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 $f(x) = x^2$ , $g(f(x)) = x^2 + 3$ .															
<b>Honors Algebra II: Functions and Relations (Linear)</b>															
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			

<b>District Objective</b> Solve problems using direct variation.										<b>PASS Process Standard</b>				<b>Quarter III</b> <b>No. Days</b> 2	
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ● PLAN   ● ACT   ○ AP															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> L. Solve routine multistep problems using concepts such as rate, distance, <b>ratio</b> and <b>proportion</b> , average, and percent.												<b>NCTM Standard</b> Pgs. 297-300			
<b>Text Correlation</b> 9.2 Pgs. 556-561					<b>Rating</b> 1		<b>Additional Resources</b> How Big Is Your Foot? Activity; Finding Human Ratios, Chapter 8, page 2 Lab Activity								
<b>Assessment</b>  If $\frac{5}{x} = \frac{15}{9}$ , then $x =$  (a) 1                      (b) 3                      (c) 9                      (d) 18                      (e) 27															
<b>Honors Algebra II: Functions and Relations (Rational Functions)</b>															
K	1	2	3	4	5	6	7	Pre- Alg	Alg I	Geom	Alg II	MA	P & S	Pre- Cal	AP Cal
									I		M				

<b>District Objective</b> *Simplify, multiply, divide, add, and subtract rational functions.  <i>*Critical to success in next course.</i>										<b>PASS Process Standard</b>			<b>Quarter III</b> <b>No. Days</b> 14		
<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															
<b>PASS Objective</b> The student will...										<b>NCTM Standard</b> Pgs. 297-300					
<b>Text Correlation</b> 9.3, 9.4 Pgs. 562-573				<b>Rating</b> 1		<b>Additional Resources</b> Rational Rummy Card Game Activity									
<b>Assessment</b>  1. For all $x > 0$ , which of the following is equal to $\frac{x^2 - 9}{x^2 + 9x + 18}$ ?  (a) $-\frac{1}{18}$ (b) $-\frac{1}{x+2}$ (c) $-\frac{1}{x+18}$ (d) $1 - \frac{1}{x}$ *(e) $\frac{x-3}{x+6}$  2. Simplify: $\frac{\frac{2}{x} + \frac{3}{y}}{1 - \frac{1}{x}}$ .  (a) $\frac{1+xy}{x-1}$ (b) $xy$ (c) $\frac{2y+3x}{y(x-1)}$ (d) $\frac{3y+2x}{x(y-1)}$ (e) $\frac{xy}{x-1}$															
<b>Honors Algebra II: Functions and Relations</b> (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			
<b>District Objective</b> *Identify inverse properties of exponents and logarithms.  <i>*Critical to success in next course.</i>											<b>PASS Process Standard</b>		<b>Quarter IV</b> <b>No. Days</b> 2			
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ● ACT   ○ AP																
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> *L. Use technology to apply the inverse relationship between <b>exponential</b> and <b>logarithmic functions</b> to solve problems.													<b>NCTM Standard</b> Pgs. 297-300			
<b>Text Correlation</b> 10.1A, 10.2 Pgs. 594 & 605				<b>Rating</b> 1		<b>Additional Resources</b> Exponent Shuffle Activity; Exponent Shuffle Problems; Connections to Logarithms: Inverse of a Function Activity; Algebra II Logarithm Exploration Activity										
<b>Assessment</b>  Let $a$ be a positive real number, $a \neq 1$ .  <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <b>Base <math>a</math></b>             1. <math>\log_a a^x = x</math>            2. <math>a^{\log_a x} = x</math> </td> <td style="width: 50%; vertical-align: top;"> <b>Base <math>e</math></b>             1. <math>\ln e^x = x</math>            2. <math>e^{\ln x} = x</math> </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>															<b>Base <math>a</math></b>  1. $\log_a a^x = x$ 2. $a^{\log_a x} = x$	<b>Base <math>e</math></b>  1. $\ln e^x = x$ 2. $e^{\ln x} = x$
<b>Base <math>a</math></b>  1. $\log_a a^x = x$ 2. $a^{\log_a x} = x$	<b>Base <math>e</math></b>  1. $\ln e^x = x$ 2. $e^{\ln x} = x$															
The solution is $x = \ln 72$ . Check this in the original equation.																
<b>Honors Algebra II: Functions and Relations</b> (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	
<b>District Objective</b> *Solve equations involving logarithmic functions. <i>*Critical to success in next course.</i>											<b>PASS Process Standard</b> V A			<b>Quarter IV</b> <b>No. Days</b> 1	
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ● ACT   ○ AP															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> *K. Use technology to interpret and graph <b>exponential</b> and <b>logarithmic functions</b> (e.g., compound growth, population, decibels).													<b>NCTM Standard</b> Pgs. 297-300		
<b>Text Correlation</b> 10.2 Pgs. 605-610				<b>Rating</b> 1		<b>Additional Resources</b> Human Number Line Activity									
<b>Assessment</b>  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 $x = 5$ .															
<b>Honors Algebra II: Functions and Relations</b> (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		
<b>District Objective</b> *Simplify and evaluate expressions using properties of logarithms.  <i>*Critical to success in next course.</i>											<b>PASS Process Standard</b>		<b>Quarter IV</b> <b>No. Days</b> 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															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> *K. Use technology to interpret and graph <b>exponential</b> and <b>logarithmic functions</b> (e.g., compound growth, population, decibels).												<b>NCTM Standard</b> Pgs. 297-300			
<b>Text Correlation</b> 10.3 Pgs. 611-616				<b>Rating</b> 1		<b>Additional Resources</b> Algebra Wars: Evaluating Logarithms Activity									
<b>Assessment</b>  1. If $\log_2(x-1) + \log_2(x+1) = 3$ , then $x =$  (a) -1                      (b) 1                      (c) 2                      *(d) 3                      (e) 4															
<b>Honors Algebra II: Functions and Relations</b> (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		
<b>District Objective</b> *Find common natural logarithms.  <i>*Critical to success in next course.</i>											<b>PASS Process Standard</b>		<b>Quarter IV</b> <b>No. Days</b> 2		
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ● ACT   ○ AP															
<b>PASS Objective</b> The student will... <b>II. Functions and Relations</b> *K. Use technology to interpret and graph <b>exponential</b> and <b>logarithmic functions</b> (e.g., compound growth, population, decibels).												<b>NCTM Standard</b> Pgs. 297-300			
<b>Text Correlation</b> 10.4 Pgs. 617-620 10.5 Pgs. 622-625				<b>Rating</b> 1		<b>Additional Resources</b> Exponential Growth - Rumor Spreading Student's Lab Activity									
<b>Assessment</b>  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															
<b>Honors Algebra II: Functions and Relations</b> (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		
<b>District Objective</b> *Solve exponential and logarithmic equations.  <i>*Critical to success in next course.</i>											<b>PASS Process Standard</b>			<b>Quarter IV</b> <b>No. Days</b> 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																
<b>PASS Objective</b> The student will...											<b>NCTM Standard</b> Pgs. 297-300					
<b>II. Functions and Relations</b> *K. Use technology to interpret and graph <b>exponential</b> and <b>logarithmic functions</b> (e.g., compound growth, population, decibels).																
<b>Text Correlation</b> 10.6 Pgs. 626-630					<b>Rating</b> 1		<b>Additional Resources</b> Puzzle #55 Activity									
<b>Assessment</b>  1. If $10^x = 31.4$ , then $x =$  (a) 0            (b) 1            *(c) 1.5            (d) 3.14            (e) 31.4																
<b>Honors Algebra II: Functions and Relations</b> (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	



<b>District Objective</b> Identify arithmetic and geometric series and sequences.										<b>PASS Process Standard</b>				<b>Quarter IV</b> <b>No. Days</b> 12	
○ ITBS   ○ CRT   ○ EXPLORE   ○ EOI   ○ PLAN   ○ ACT   ○ AP															
<b>PASS Objective</b> The student will... <b>III. Data Analysis, Statistics, and Probability</b> F. Identify arithmetic and geometric series and <b>sequences</b> (e.g., <b>binomial expansion</b> , Pascal's Triangle).												<b>NCTM Standard</b> Pgs. 292-294			
<b>Text Correlation</b> 11.1 - 11.4 Pgs. 648-675				<b>Rating</b>		<b>Additional Resources</b> Puzzle #53 Activity; Pascal's Triangle Activity; Arithmetic/Geometric Series Activity; An Arithmetic Sequence Activity; Sequences with Grid Squares Activities; Tic Tac Toe Evaluate the Sigma Sums Activity									
<b>Assessment</b>  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 $10(8.5) = 85$ .															
<b>Honors Algebra II: Data Analysis, Statistics and Probability</b>															
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		

<b>District Objective</b> Determine the number of combinations and permutations for an event.		<b>PASS Process Standard</b>	<b>Quarter IV</b> <b>No. Days</b> 8
<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			
<b>PASS Objective</b> The student will... <b>III. Data Analysis, Statistics, and Probability</b> E. Determine the number of <b>combinations</b> and <b>permutations</b> for an event.			<b>NCTM Standard</b> Pgs. 292-294
<b>Text Correlation</b> 12.2 - 12.4 Pgs. 718-731	<b>Rating</b> 1	<b>Additional Resources</b> Combinations Activity; Permutations Activity	
<b>Assessment</b>  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			