

1 st Nine Weeks					
TAKS Obj.	TEKS: Student Expectation	Teaching and Planning Notes	Region IV Curriculum	Exit Level Prep. Guide	Additional Resources
	Opening Procedures - Review	<ul style="list-style-type: none"> PEMDAS, substitute numbers into a formula Order of Operations and Evaluating Formula 			<i>Order of Operations, Broken Calculator, Plug</i> (worksheets)
1	<p>M.1 Student uses a variety of strategies and approaches to solve both routine and non-routine problems.</p> <p>M.1.A Compare and analyze various methods for solving a real-life problem;</p> <p>M.1.B Use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines; and</p> <p>M.1.C Select a method to solve a problem, defend the method, and justify the reasonableness of the results.</p>	<ul style="list-style-type: none"> Use of calculator, use rules of algebra to rearrange equation in terms of a particular variable, vocabulary of equations; Solving equations/word problems 			<i>Algebra Survival Guide</i> (pp. 187-212, 245-266) & <i>Workbook</i> (pp. 47-51, 59-62) by Josh Rappaport
1, 2, 3, 4	<p>M.1 Student uses a variety of strategies and approaches to solve both routine and non-routine problems.</p> <p>M.1.A Compare and analyze various methods for solving a real-life problem;</p> <p>M.1.B Use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines;</p> <p>M.2.A interpret information from various graphs, including line graphs, bar graphs, circle graphs, histograms, scatterplots, line plots, stem and leaf plots, and box and whisker plots to draw conclusions from the data;</p> <p>M.2.B Analyze numerical data using measures of central tendency, variability, and correlation in order to make inferences;</p> <p>M.2.C Analyze graphs from journals, newspapers, and other sources to determine the validity of stated arguments;</p>	<ul style="list-style-type: none"> Rotations and Reflections Dilations and Translations Emphasis on technology Transformations in functions Writing equations from translations Transfer student knowledge of transformations to other parent functions Domain/x,/independent variable, Range/y/dependent variable, vertical line test; Relations and functions: domain and range, independent and dependent variables, graphing and organizing data from a table, scale, discrete and continuous graphs Writing equations from data, describing graphs using written sentences; Formal definition of functions and the various notations <i>Euler, mapping</i> Identifying functional relationships from various menus, <i>tables, graphs, equations</i> Evaluating functions to find domain and range Interpreting graphs of functions for various problem situations Linear relations and functions: $Ax + By = C$, $y=mx+b$, x/y intercepts, parallel, perpendicular Point slope form is not emphasized in Algebra I and should be introduced here 	<p>1.1-1.2</p> <p>1.4: Activity 3 2.1 – 2.4 2.6 2.8 2.10 2.12</p>	Objective 1: Input-Output Lesson Can supplement if needed with Obj. 6 <i>Coordinate Transformation Lesson</i> pp. 241-260	

	<p>M.3 The student develops and implements a plan for collecting and analyzing data in order to make decisions.</p> <p>M.3.C Determine the appropriateness of a model for making predictions from a given set of data.</p> <p>M.5 The student uses functional relationships to solve problems related to personal income.</p> <p>M.5.A Use rates, linear functions, and direct variation to solve problems involving personal finance and budgeting, including compensations and deductions;</p> <p>M.7 The student uses algebraic formulas, numerical techniques, and graphs to solve problems related to financial planning.</p> <p>M.8.C Use direct and inverse variation to describe physical laws such as Hook's, Newton's, and Boyle's laws.</p> <p>M.9.A Use geometric transformations, symmetry, and perspective drawings to describe mathematical patterns and structure in art and architecture;</p>	<ul style="list-style-type: none"> • Graphing linear equations • Formulating equations and inequalities • Slope, positive and negative correlation, familiar with $y = x$ and $y = x^2$ • Direct and inverse variation • Graphing with the calculator and table building by hand parameter changes in k; • Graphing $y = kx$ and $y = kx^2$ • Rate of change 			
1, 2, 3, 4, 10	<p>M.1.A Compare and analyze various methods for solving a real-life problem;</p> <p>M.1.B Use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines;</p> <p>M.2.A interpret information from various graphs, including line graphs, bar graphs, circle graphs, histograms, scatterplots, line plots, stem and leaf plots, and box and whisker plots to draw conclusions from the data;</p>	<ul style="list-style-type: none"> • Familiarity with calculators, positive and negative correlation, familiar with all families of graphs; Instructional Considerations: Clarifying Activity • Graphing $y = k/x$ and $y = k/x^2$ • Using technology • Graphing direct and inverse variation • Fitting Models to Data • Deriving equations of variation given data or a graph 	5.1		

2 nd Nine weeks					
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1, 2, 3, 4, 7, 10	<p>M.1.A Compare and analyze various methods for solving a real-life problem;</p> <p>M.1.B Use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines; and</p> <p>M.1.C Select a method to solve a problem, defend the method, and justify the reasonableness of the results.</p>	<ul style="list-style-type: none"> Solving linear systems by graphing and from tables Solving linear systems algebraically Graphing systems of linear inequalities Solve systems of equations using matrices 	3.1 – 3.2		Foldables: <i>Solving Systems of Equations</i>
10	<p>M.1 Students use mathematical models from algebra, geometry, probability, and statistics and connections among these to solve problems from a wide variety of advanced applications in both mathematical and nonmathematical situations.</p> <p>M.b.2 Students use multiple representations, applications and modeling, justification and proof, and computation in problem-solving contexts.</p> <p>M.1.A Compare and analyze various methods for solving a real-life problem;</p> <p>M.1.B Use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines; and</p> <p>M.2 The student uses graphical and numerical techniques to study patterns and analyze data.</p> <p>M.3.C Determine the appropriateness of a model for making predictions from a given set of data.</p>	<ul style="list-style-type: none"> Exponent rules (integer exponents) Simplifying all square roots Adding and multiplying all square roots 	5.3 5.4		<i>Algebra Survival Guide</i> (pp. 85-114) & <i>Workbook</i> (pp. 22-29) by Josh Rappaport
	Review and assess				

3 rd Nine Weeks					
TAKS Obj.	TEKS: Student Expectation	Teaching and Planning Notes	Region IV Curriculum	Exit Level Prep. Guide	Additional Resources
M	<p>M.1 Students use mathematical models from algebra, geometry, probability, and statistics and connections among these to solve problems from a wide variety of advanced applications in both mathematical and nonmathematical situations.</p> <p>M.2 Students use multiple representations, applications and modeling, justification and proof, and computation in problem-solving contexts.</p> <p>M.1 Student uses a variety of strategies and approaches to solve both routine and non-routine problems.</p> <p>M.1.A Compare and analyze various methods for solving a real-life problem;</p> <p>M.1.B Use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines; and</p> <p>M.1.C Select a method to solve a problem, defend the method, and justify the reasonableness of the results.</p> <p>M.2 The student uses graphical and numerical techniques to study patterns and analyze data.</p> <p>M.3 The student develops and implements a plan for collecting and analyzing data in order to make decisions.</p> <p>M.3.A Formulate a meaningful question, determine the data needed to answer the question, gather the appropriate data, analyze the data, and draw reasonable conclusions;</p> <p>M.3.B Communicate methods used, analysis conducted, and conclusions drawn for a data-analysis project by written report, visual display, oral-report, or multi-media presentation;</p> <p>M.3.C Determine the appropriateness</p>	<ul style="list-style-type: none"> • Solving for roots of quadratic equations graphically • Graphing quadratic equations from tables using technology to solve for roots • Evaluating the reasonableness of solutions • Solve quadratic equations by factoring and the quadratic formula • Find solutions to real-world problems using the quadratic formula • Simplify square root expressions (simple radical form) • Discriminant and nature of roots • Writing quadratic equations given the roots or a graph • Combining like terms, multiplying two binomials, factoring the greatest common factor, factoring perfect square trinomials • Instructional Considerations: use algebra tiles, foil method or box method for multiplying two or more binomials; • Review and assessment • Factoring Trinomials • Differences of Squares • Sum and difference of cubes • 30-60-90 right triangle ratios • Midpoint formula • Distance formula • Pythagorean Theorem 	<p>4.1</p> <p>4.3-4.5</p> <p>4.6 Activity 1</p> <p>4.7 (All)</p>	<p>Obj. 5</p> <p>Activities for quadratic functions.</p> <p>Activities in Objectives 8 and 10</p>	

2005-2006

Math Models Scope & Sequence

	of a model for making predictions from a given set of data.				
	Review and Assess				

4 th Nine Weeks					
8, 10	<p>M.2 Use problem solving, language and communication, connections within and outside mathematics, and reasoning. Multiple representations, applications and modeling, justification and proof, and computation in problem-solving contexts.</p> <p>M.1 The student uses a variety of strategies and approaches to solve both routine and non-routine problems.</p>	<ul style="list-style-type: none"> • Geometry of Solid Figures • Perimeter, Area, Volume, Surface Area 	Appendix B B.1 B.3 B.4	Activities in Objectives 8 and 10	
1	<p>M.1 Student uses a variety of strategies and approaches to solve both routine and non-routine problems.</p> <p>M.2.B Analyze numerical data using measures of central tendency, variability, and correlation in order to make inferences;</p> <p>M.2.C Analyze graphs from journals, newspapers, and other sources to determine the validity of stated arguments;</p> <p>M.4 The student uses probability models to describe everyday situations involving chance.</p> <p>M.4A Compare theoretical and empirical probability; and</p> <p>M.4.B Use experiments to determine the reasonableness of a theoretical model such as binomial, geometric, etc.</p> <p>M.8 The student uses algebraic and geometric models to describe situations and solve problems.</p>	<ul style="list-style-type: none"> • Simple probability (part to whole) • Venn Diagrams • Simulation models • Theoretical and empirical probability • Misleading graphs • Histograms 	Appendix A A.1-A.2 A.5-A.6		
1	<p>M.8.C Use direct and inverse variation to describe physical laws such as Hook's, Newton's, and Boyle's laws</p>	<ul style="list-style-type: none"> • Exponential graphs • Domain and range • Parameter changes and asymptotic behavior • Fits and exponential model to data • Clarifying Activity 	7.1, 7.2 C1 C2		

<p>M.1.A Compare and analyze various methods for solving a real-life problem; M.1.B Use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines; M.2.B Analyze numerical data using measures of central tendency, variability, and correlation in order to make inferences; M.3.A Formulate a meaningful question, determine the data needed to answer the question, gather the appropriate data, analyze the data, and draw reasonable conclusions; M.3.B Communicate methods used, analysis conducted, and conclusions drawn for a data-analysis project by written report, visual display, oral-report, or multi-media presentation; M.5.B Solve problems involving personal taxes; and M.5.C Analyze data to make decisions about banking. M.6.A Analyze methods of payment available in retail purchasing and compare relative advantages and disadvantages of each option; M.6.B Use amortization models to investigate home financing and compare buying and renting a home; and M.6.C Use amortization models to investigate automobile financing and compare buying and leasing a vehicle. M.7.A Analyze types of savings options involving simple and compound interest and compare relative advantages of these options; M.7.B Analyze and compare coverage options and rates of insurance; and M.7.C Investigate and compare investment options including stocks, bonds, annuities, and retirement plans.</p>	<ul style="list-style-type: none"> • Personal Finance 	<p>6.1 – 6.5</p>		<p>Finance Projects</p>
<p>Review and Assess</p>				