

Algebra I Scope and Sequence First Six Weeks

Topic: Foundations of Algebra			
	<u>Math Home</u>	<u>TAKS Resources</u>	
Topics	TEKS	Resources	PreAP Resources
<p>Section 1.1</p> <ul style="list-style-type: none"> • Variable Expressions <ul style="list-style-type: none"> ○ Translate ○ Evaluate <p>Section 1.2 – 1.3</p> <ul style="list-style-type: none"> • Real Number Operations <ul style="list-style-type: none"> ○ Add ○ Subtract ○ Multiply ○ Divide <p>Section 1.4</p> <ul style="list-style-type: none"> • Powers and Exponents <ul style="list-style-type: none"> ○ Evaluate <p>Sections 1.5</p> <ul style="list-style-type: none"> • Square Roots and Real Numbers <ul style="list-style-type: none"> ○ Evaluate ○ Real Number Systems <p>Section 1.6</p> <ul style="list-style-type: none"> • Order of Operation <p>Section 1.7</p> <ul style="list-style-type: none"> • Simplify Expressions <ul style="list-style-type: none"> ○ Commutative ○ Associative ○ Distributive <p>Section 1.8</p> <ul style="list-style-type: none"> • Introduction to Functions 	<p>Section 1.1</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • A.3.A Use symbols to represent unknowns and variables. • A.3.B Look for patterns and represent generalizations algebraically. • A.4.A Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • 8.14.A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics. <p>Section 1.2 – 1.6</p> <ul style="list-style-type: none"> • 7.2.B Use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals. • 7.2.C Use models, such as concrete objects, pictorial models and number lines, to add, subtract, multiply, and divide integers and connect the actions to algorithms. • 7.2.E Simplify numerical expressions involving order of operations and exponents. <p>Section 1.7</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • A.4.B Use the commutative, associative, and distributive properties to simplify algebraic expressions. <p>Section 1.8</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • A.1.D Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. <p>TAKS OBJECTIVE 6</p> <ul style="list-style-type: none"> • 8.7.D locate and name points on a coordinate plane using ordered pairs of rational numbers. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • 8.16.A Make conjectures from patterns or sets of examples and nonexamples. G.5.B • 8.16.B Validate his/her conclusions using mathematical properties and relationships. 	<p>SBISD Flipchart Repository</p> <ul style="list-style-type: none"> • Prime and Composite Numbers • Review of Fractions • Translating Expressions • Evaluate Expressions • Integer Operations • Real Number Systems • Order of Operation • Write Expressions • Combine Like Terms <p>• SBISD:</p> <ul style="list-style-type: none"> • Distributive Property • M&M[®] Distributive Property <p>Original Algebra I Textteams Materials</p> <ul style="list-style-type: none"> • Importance of Patterns — Sec. 1 • Angles of a Quad—Sec. 1 <p>TEXTTEAMS:</p> <ul style="list-style-type: none"> • 2.1 Identifying Patterns pages 41-63 	<p>Math ToolKit:</p> <ul style="list-style-type: none"> • Mosaics <p>T³:</p> <p>Patterns A.3.B</p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives:</p> <p>http://nlvm.usu.edu</p>

Algebra I Scope and Sequence First Six Weeks

Topic: Solving Equations		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 2.1 – 2.2</p> <ul style="list-style-type: none"> • One-Step Equations <ul style="list-style-type: none"> ○ Add & Subtract ○ Multiply & Divide ○ Fractions & Decimals ○ Translate ○ Algebra Tiles <p>Section 2.3</p> <ul style="list-style-type: none"> • Two-Step Equations <ul style="list-style-type: none"> ○ Combine Like Terms ○ Distributive Property ○ Translate ○ Graphing Calculator <p>Section 2.4</p> <ul style="list-style-type: none"> • Variables on Both Sides <p>Sections 2.5</p> <ul style="list-style-type: none"> • Solve for a Variable <ul style="list-style-type: none"> ○ Formulas 	<p>Section 2.1 – 2.2 TAKS OBJECTIVE 4</p> <ul style="list-style-type: none"> • <u>A.7.A</u> Analyze situations involving linear functions and formulate linear equations or inequalities to solve problems. • <u>A.7.B</u> Investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, select a method, and solve the equations and inequalities. • <u>A.7.C</u> Interpret and determine the reasonableness of solutions to linear equations and inequalities. <p>Section 2.3 – 2.4 TAKS OBJECTIVE 4</p> <ul style="list-style-type: none"> • <u>A.7.B</u> Investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, select a method, and solve the equations and inequalities. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.14.C</u> Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem. <p>Section 2.5 TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.4.A</u> Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.15.A</u> Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. 	<p>SBISD Flipchart Repository</p> <ul style="list-style-type: none"> • <u>Solve One Step Equations</u> • <u>Solve Equations By Adding and Subtracting</u> <p>Math Toolkit:</p> <ul style="list-style-type: none"> • <u>Geothermal Energy</u> • <u>Hot-Air Balloon</u> • <u>Stretched Spring</u> • <u>CD's For the Band</u> <p>TEXTTEAMS:</p> <ul style="list-style-type: none"> • <u>Solving Linear Equations, p. 251-264</u> • <u>Stays the Same, p. 265-278</u> <p>SBISD:</p> <ul style="list-style-type: none"> • <u>Algebra Tiles 1 Step</u> • <u>Algebra Tiles 2 Step</u> • <u>Algebra Tiles ALL</u> • <u>Hot Air Balloon</u> • <u>Jeopardy! Solving Equations</u> <ul style="list-style-type: none"> ○ E-mail Jim Lefeber for music <p><u>SBISD Cool Tools:</u></p> <ul style="list-style-type: none"> • <u>Algebra Tiles Template</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Literal Equations</u> <p>SBISD:</p> <p><u>Literal Equations</u> A.7.B <u>Solving Equations</u> A.4.A, A.4.B <u>Problem Solving #1</u> A.7.A, A.7.B, A.7.C <u>Problem Solving #2</u> A.7.A, A.7.B, A.7.C <u>Problem Solving #3</u> A.7.A, A.7.B, A.7.C <u>Problem Solving #4</u> A.7.A, A.7.B, A.7.C <u>Problem Solving #5</u> A.7.A, A.7.B, A.7.C</p> <p>T³:</p> <p><u>Linear Equations on TI73</u> A.7.B</p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence First Six Weeks

Topic: Inequalities			
	<u>Math Home</u>	<u>TAKS Resources</u>	
Topics	TEKS	Resources	PreAP Resources
<p>Section 3.1</p> <ul style="list-style-type: none"> • Graphing and Writing Inequalities <ul style="list-style-type: none"> ○ Graph on Number Line ○ Translate <p>Section 3.2 – 3.3</p> <ul style="list-style-type: none"> • One-Step Inequalities <ul style="list-style-type: none"> ○ Add & Subtract ○ Multiply & Divide ○ Fractions & Decimals ○ Translate <p>Section 3.4</p> <ul style="list-style-type: none"> • Two-Step Inequalities <ul style="list-style-type: none"> ○ Combine Like Terms ○ Distributive Property ○ Translate <p>Section 3.5</p> <ul style="list-style-type: none"> • Inequalities With Variables on Both Sides 	<p>Section 3.1 – 3.5</p> <p>TAKS OBJECTIVE 4</p> <ul style="list-style-type: none"> • <u>A.7.A</u> Analyze situations involving linear functions and formulate linear equations or inequalities to solve problems. • <u>A.7.B</u> Investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, select a method, and solve the equations and inequalities. • <u>A.7.C</u> Interpret and determine the reasonableness of solutions to linear equations and inequalities. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.15.A</u> Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. • <u>8.16.B</u> Validate his/her conclusions using mathematical properties and relationships. 	<p>TEXTEAMS:</p> <ul style="list-style-type: none"> • <u>3.3 Solving Linear Inequalities pages 279-294</u> 	<p>Holt Algebra 1:</p> <p>Sections 3.6</p> <ul style="list-style-type: none"> • Solve Compound Inequalities <ul style="list-style-type: none"> ○ Solve ○ Graph on Number Line <p>Chapter 3 Extension</p> <ul style="list-style-type: none"> • Solve Absolute Value Inequalities <ul style="list-style-type: none"> ○ Algebraic Method <p>T³:</p> <p><u>Solving Inequalities Using TI73</u></p> <p><u>A.1.C, A.7.A, A.7.B, A.7.C</u></p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives:</p> <p><u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Second Six Weeks

Topic: Proportion and Percent			
		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 2.6</p> <ul style="list-style-type: none"> • Rates, Ratios, & Proportions <ul style="list-style-type: none"> ○ Ratios ○ Rates ○ Unit Rates ○ Write and Solve Proportions <p>Section 2.7</p> <ul style="list-style-type: none"> • Applications of Proportions <ul style="list-style-type: none"> ○ Similar Figures <p>Section 2.8</p> <ul style="list-style-type: none"> • Percents <p>Sections 2.9</p> <ul style="list-style-type: none"> • Applications of Percents <ul style="list-style-type: none"> ○ Commission ○ Simple Interest Formula ○ Tips <p>Sections 2.10</p> <ul style="list-style-type: none"> • Percent of Increase and Decrease 	<p>Section 2.6 – 2.7</p> <p>TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.6.G</u> Relate direct variation to linear functions and solve problems involving proportional change. <p>TAKS OBJECTIVE 7</p> <ul style="list-style-type: none"> • <u>8.7.B</u> Use geometric concepts and properties to solve problems in fields such as art and architecture. <p>TAKS OBJECTIVE 8</p> <ul style="list-style-type: none"> • <u>8.9.B</u> Use proportional relationships in similar shapes to find missing measurements. • <u>G.11.A</u> Use and extend similarity properties and transformations to explore and justify conjectures about geometric figures. • <u>G.11.B</u> Use ratios to solve problems involving similar figures. <p>TAKS OBJECTIVE 9</p> <ul style="list-style-type: none"> • 8.1.B Select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships. (Tested 2005). • <u>8.3.B</u> Estimate and find solutions to application problems involving percents and other proportional relationships. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.14.A</u> Identify and apply mathematics to everyday experiences ... • <u>8.14.B</u> Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness. • <u>8.14.C</u> Select or develop an appropriate problem-solving strategy from a variety of different types ... • <u>8.15.A</u> Communicate mathematical ideas using ... <p>Section 2.8 – 2.10</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.4.A</u> Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.16.B</u> Validate his/her conclusions using mathematical properties and relationships. 		<p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Second Six Weeks

Topic: Functions		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 4.1</p> <ul style="list-style-type: none"> • Graphing Relationships <ul style="list-style-type: none"> ○ Graph to Words ○ Words to Graphs <p>Section 4.2</p> <ul style="list-style-type: none"> • Relations and Functions <ul style="list-style-type: none"> ○ Identify Functions ○ Domain and Range <p>Section 4.3</p> <ul style="list-style-type: none"> • Writing Functions <ul style="list-style-type: none"> ○ Independent and Dependent Variables ○ Function Notation ○ Translate <p>Section 4.4</p> <ul style="list-style-type: none"> • Graphing Functions <ul style="list-style-type: none"> ○ Words to Equation to Table to Graph <p>Section 4.5</p> <ul style="list-style-type: none"> • Scatter Plots and Trend Lines <ul style="list-style-type: none"> ○ Technology Lab: Linear Regression 	<p>Section 4.1</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.E</u> Interpret and make decisions, predictions, and critical judgments from functional relationships. <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.2.C</u> Interpret situations in terms of given graphs or creates situations that fit given graphs. <p>Section 4.2</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.B</u> Gather and record data, and use data sets to determine functional relationships between quantities. <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.2.B</u> Identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete. <p>Section 4.3</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.A</u> Describe independent and dependent quantities in functional relationships. • <u>A.1.C</u> Describe functional relationships for given problem situations and write equations or inequalities to answer questions arising from the situations. <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • A.4.C Connect equation notation with function notation, such as $y = x + 1$ and $f(x) = x + 1$. <p>Section 4.4</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.D</u> Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. <u>G.5.A</u> <p>Section 4.5</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.2.D</u> Collect and organize data, make and interpret scatterplots (recognizing pos., neg., or no correlation for data approx. linear situations), and model, predict, and make decisions and critical judgments in problem situations. 	<p>SBISD Flipchart Repository</p> <ul style="list-style-type: none"> • <u>Graphing Relationships</u> • <u>Function Input/Output</u> • <u>Multiple Representations</u> • <u>Patterns 1</u> • <u>Patterns 2</u> • <u>Tables to Equations</u> • <u>Scatterplots</u> <p>Math Toolkit:</p> <ul style="list-style-type: none"> • <u>Distance and Time</u> <p>TEXTTEAMS:</p> <ul style="list-style-type: none"> • <u>1.1 Variables & Functions</u> • <u>3.2 Valentine's Day Idea</u> <p>Original Algebra I Textteams Materials</p> <ul style="list-style-type: none"> • <u>Have You Lost Your Marbles?</u> (Linear), Sec 1 • Lickety Split Jalopies (Non-linear), Section 1 • <u>Rubberband Cannons</u> (Linear/Quadratic), Sec. 1 <p>SBISD:</p> <ul style="list-style-type: none"> • <u>Coordinate Plane</u> • <u>Roses Are Red</u> • <u>Age Problem Power Point</u> • <u>Age Problem Document</u> • <u>Introduction to Functions</u> • <u>Rubber Band Cannons</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Intro to Function Notation</u> • <u>Verbal to Table to Graph</u> • <u>Determine a Better Deal</u> • <u>Table, Graph and Function Notation</u> • <u>Discrete and Continuous Data</u> • <u>A Transformation Story</u> <p>SBISD:</p> <ul style="list-style-type: none"> • <u>Walk This Way</u> <p>T³:</p> <ul style="list-style-type: none"> • <u>Line of Best Fit Calculator directions</u> A.2.D • <u>CSI Investigates</u> A1.B, A.1.C, A.2.C, A.2.D • <u>Guess My Age</u> A1.B, A.1.C, A.2.C, A.2.D • <u>Tie the Knot Lab</u> A1.B, A.1.C, A.2.C, A.2.D • <u>CBR Instructions & Activities</u> A.1.D, A.1.E <p>NCTM Illuminations:</p> <ul style="list-style-type: none"> • <u>Barbie Bungee Project</u> A1.B, A.1.C, A.2.C, A.2.D

Algebra I Scope and Sequence Third Six Weeks

Topic: Linear Functions		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 5.1</p> <ul style="list-style-type: none"> • Identifying Linear Functions <ul style="list-style-type: none"> ○ By Graph ○ By Table –1st Difference ○ By Equation ○ Standard Form ○ Words to Equation to Table to Graph ○ Domain and Range <p>Section 5.2</p> <ul style="list-style-type: none"> • Using Intercepts <ul style="list-style-type: none"> ○ Find x- & y- intercepts ○ Real World Meaning ○ Graph Lines <p>Section 5.3</p> <ul style="list-style-type: none"> • Rate of Change and Slope <ul style="list-style-type: none"> ○ Constant Rate of Change ○ Rise over Run ○ Positive, Negative, Zero, and Undefined <p>Section 5.4</p> <ul style="list-style-type: none"> • Slope Formula <p>Section 5.5</p> <ul style="list-style-type: none"> • Direct Variation <ul style="list-style-type: none"> ○ Identify from Equation ○ Identify from Table ○ Proportions ○ Write Equations 	<p>Section 5.1</p> <p>TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.5.A</u> Determine whether or not given situations can be represented by linear functions. • <u>A.5.B</u> Determine the domain and range for linear functions in given situations. • <u>A.5.C</u> Use, translate, and make connections among algebraic, tabular, graphical, or verbal descriptions of linear functions. <p>Section 5.2</p> <p>TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.6.E</u> Determine the intercepts of the graphs of linear functions and zeros of linear functions from graphs, tables, and algebraic representations. <p>Section 5.3</p> <p>TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.6.A</u> Develop the concept of slope as rate of change and determine slopes from graphs, tables, and alg. rep. • <u>A.6.B</u> Interpret the meaning of slope and intercepts in situations using data, symbolic rep., or graphs. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.14.C</u> Select or develop an appropriate problem-solving strategy from a variety of different types ... <p>Section 5.4</p> <p>TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.6.A</u> Develop the concept of slope as rate of change and determine slopes from graphs, tables, and alg. rep. <p>Section 5.5</p> <p>TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.6.G</u> Relate direct variation to linear functions and solve problems involving proportional change. 	<p>SBISD Flipchart Repository</p> <ul style="list-style-type: none"> • <u>Introduction to Slope</u> <p>Math Tool Kit</p> <ul style="list-style-type: none"> • <u>Linear Functions</u> Worksheet <u>A</u> <u>B</u> • <u>Draining Swimming Pool</u> • <u>Explorer's Glide</u> <p>TEXTEAMS:</p> <ul style="list-style-type: none"> • <u>1.3 Exploring Rates of Change pages 153-162</u> • <u>2.1 Out for a Stretch pages 183-231</u> • <u>1.4 Finite Differences pages 170-182</u> <p>SBISD:</p> <ul style="list-style-type: none"> • <u>Walk This Way</u> • <u>Geoboard Slope Activity 1</u> • <u>Geoboard Slope Activity 2</u> • <u>Balloon Drop Trend Lines</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Rate of Change</u> • <u>Slope Investigation</u> • <u>Average Rate of Change</u> • <u>Translations of Linear Functions</u> • <u>Fitting a Line to Data</u> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Third Six Weeks

Topic: Writing Linear Functions		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 5.6</p> <ul style="list-style-type: none"> • Slope – Intercept Form <ul style="list-style-type: none"> ○ Write Equation <ol style="list-style-type: none"> 1. Given Slope/Intercept 2. Given Slope/Point 3. Given Standard Form 4. Word Problems ○ Graph <ol style="list-style-type: none"> 1. Given Slope/Intercept <p>Section 5.7</p> <ul style="list-style-type: none"> • Point – Slope Form <ul style="list-style-type: none"> ○ Write Equation <ol style="list-style-type: none"> 1. Given Slope/Point 2. Given Two Points ○ Convert to $y = mx + b$ ○ Graph <ol style="list-style-type: none"> 1. Given Slope/Point <p>Section 5.8</p> <ul style="list-style-type: none"> • Slopes of Parallel and Perpendicular Lines <ul style="list-style-type: none"> ○ Identify from Equation <ol style="list-style-type: none"> 1. Slope – Intercept 2. Point – Slope 3. Standard Form ○ Write Equations ○ Geometry Application <ol style="list-style-type: none"> 1. Parallelogram 2. Right Triangles <p>Section 5.9</p> <ul style="list-style-type: none"> • Transform Linear Funct. <ul style="list-style-type: none"> ○ Changing m and/or b 	<p>Section 5.6 – 5.7 TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.6.D</u> Graph and write equations of lines given characteristics such as two points, a point and a slope, or a slope and y-intercept. <p>Section 5.8 TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.5.C</u> Use, translate, and make connections among algebraic, tabular, graphical, or verbal descriptions of linear functions. • <u>G.7.B</u> Use slopes and equations of lines to investigate geom. relationships, including parallel lines, perpendicular lines, and special segments of triangles and other polygons. <p>Section 5.9 TAKS OBJECTIVE 3</p> <ul style="list-style-type: none"> • <u>A.6.C</u> Investigate, describe, and predict the effects of changes in m and b on the graph of $y = mx + b$. • <u>A.6.F</u> Interpret and predict the effects of changing slope and y-intercept in applied situations. 	<p>TEXTEAMS:</p> <ul style="list-style-type: none"> • <u>1.4 Finite Differences pages 170-182</u> <p>SBISD:</p> <ul style="list-style-type: none"> • <u>Hoop It Up</u> • <u>Flat Head's Writing Equations</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Piecewise Functions</u> <p>T³:</p> <p><u>Designing a Birdhouse</u> A.1.D, A.1.E, A.2.B, A.2.C, A.5.B, A.6.D</p> <p>SBISD:</p> <p><u>Equation of Lines Project</u> A.1.D, A.6.B, A.6.D, A.6.E</p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

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Topic: Linear Inequalities			
		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
Section 6.5 <ul style="list-style-type: none"> • Solve Linear Inequalities <ul style="list-style-type: none"> ○ Graphs in Two Variables 	Section 6.5 TAKS OBJECTIVE 1 <ul style="list-style-type: none"> • <u>A.1.D</u> Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. TAKS OBJECTIVE 4 <ul style="list-style-type: none"> • <u>A.7.A</u> Analyze situations involving linear functions and formulate linear equations or inequalities to solve problems. • <u>A.7.B</u> Investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, select a method, and solve the equations and inequalities. 	SBISD Flipchart Repository <ul style="list-style-type: none"> • <u>Yao's 18 Point Goal</u> SBISD: <ul style="list-style-type: none"> • <u>Yao's 18 Point Goal</u> 	SBISD: <u>Graphing Inequalities worksheet</u> <u>A.8.B, A.8.C</u> <u>Inequality word problems</u> <u>A.8.A, A.8.B, A.8.C</u>

Algebra I Scope and Sequence Third Six Weeks

Topic: Systems of Equations		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 6.1</p> <ul style="list-style-type: none"> • Solve By Graphing <ul style="list-style-type: none"> ○ Identify Solutions ○ Find Solutions ○ Words to Equation to Table to Graph <p>Section 6.2</p> <ul style="list-style-type: none"> • Solve by Substitution <ul style="list-style-type: none"> ○ Find Solutions ○ Words to Equation to Table to Graph <p>Section 6.3</p> <ul style="list-style-type: none"> • Solve by Elimination <ul style="list-style-type: none"> ○ Find Solutions ○ Words to Equation to Table to Graph ○ Choose Best Method <p>Section 6.4</p> <ul style="list-style-type: none"> • Solve Special Systems <ul style="list-style-type: none"> ○ No Solution ○ Infinite Solutions ○ One Solution 	<p>Section 6.1 – 6.4</p> <p>TAKS OBJECTIVE 4</p> <ul style="list-style-type: none"> • <u>A.8.A</u> Analyze situations and formulate systems of linear equations in two unknowns to solve problems. • <u>A.8.B</u> Solve systems of linear equations using concrete models, graphs, tables, and algebraic methods. • <u>A.8.C</u> Interpret and determine the reasonableness of solutions to systems of linear equations. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.14.B</u> Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness. • <u>8.14.C</u> Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem. 	<p>SBISD Flipchart Repository</p> <ul style="list-style-type: none"> • <u>Flipchart 6.1</u> • <u>Flipchart 6.2</u> • <u>Flipchart 6.3</u> • <u>McGrady Magic</u> <p>TEXTEAMS:</p> <ul style="list-style-type: none"> • <u>3.4 Systems of Linear Equations and Inequalities pages 295-306</u> • <u>3.4 Concrete Models and Systems of Eq. p 307-318</u> <p>SBISD:</p> <ul style="list-style-type: none"> • <u>McGrady Magic</u> • <u>More McGrady Magic</u> 	<p>Holt Algebra 1: Section 6.6</p> <ul style="list-style-type: none"> • Solve Systems of Linear Inequalities • Technology Lab <ul style="list-style-type: none"> ○ Graphing Calculator <p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Parallel and Perpendicular Lines</u> • <u>Review: Write the Equation of the Line</u> • <u>Painting the House</u> <p>SBISD:</p> <p><u>System Word Problems</u> <u>A.8.A, A.8.B, A.8.C</u> <u>Problem Solving #6</u> <u>A.7.A, A.7.B, A.7.C</u> <u>Problem Solving #7</u> <u>A.7.A, A.7.B, A.7.C</u> <u>Problem Solving #8</u> <u>A.7.A, A.7.B, A.7.C</u> <u>Problem Solving #9</u> <u>A.7.A, A.7.B, A.7.C</u></p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Fourth Six Weeks

Topic: Exponents			
		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
Section 7.1 <ul style="list-style-type: none"> • Integer Exponents <ul style="list-style-type: none"> ○ Evaluate Expressions ○ Simplify Expressions Section 7.2 <ul style="list-style-type: none"> • Scientific Notation Section 7.3 – 7.4 <ul style="list-style-type: none"> • Properties of Exponents <ul style="list-style-type: none"> ○ Multiplication property ○ Power Property ○ Division Property 	Section 7.1 – 7.4 TAKS OBJECTIVE 5 <ul style="list-style-type: none"> • <u>A.11.A</u> Use patterns to generate the laws of exponents and apply them in problem-solving situations. TAKS OBJECTIVE 10 <ul style="list-style-type: none"> • <u>8.16.A</u> Make conjectures from patterns or sets of examples and nonexamples. 	SBISD Flipchart <ul style="list-style-type: none"> • <u>Flipchart 7.1</u> • <u>Flipchart 7.2</u> • <u>Flipchart 7.3</u> • <u>Flipchart 7.4</u> • <u>Scientific Notation</u> 	Odyssey software National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u>

Algebra I Scope and Sequence Fourth Six Weeks

Topic: Polynomials			
Topics	TEKS	Resources	PreAP Resources
<p>Section 7.5</p> <ul style="list-style-type: none"> • Polynomials <ul style="list-style-type: none"> ○ Degree ○ Classify ○ Simplify Expressions <p>Section 7.6 – 7.7</p> <ul style="list-style-type: none"> • Polynomial Operations <ul style="list-style-type: none"> ○ Add ○ Subtract ○ Multiply <ol style="list-style-type: none"> 1. Monomials 2. Monomial/Polynomial 3. Binomials 4. Square a Binomial 5. Binomial/Polynomial 6. Cube a Binomial 7. Area of Polygons <p>Section 7.8</p> <ul style="list-style-type: none"> • Special Products of Binomials <ul style="list-style-type: none"> ○ Perfect Square Trinomial ○ Difference of Two Squares 	<p>Section 7.5 – 7.8</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • A.4.A Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. • A.4.B Use the commutative, associative, and distributive properties to simplify algebraic expressions. 	<p>SBISD Flipchart</p> <ul style="list-style-type: none"> • Flipchart 7.5 • Flipchart 7.6 • Flipchart 7.7 Part 1 • Flipchart 7.7 Part 2 • Flipchart 7.8 <p>Math Toolkit</p> <ul style="list-style-type: none"> • Home Improvements <p>SBISD:</p> <ul style="list-style-type: none"> • Area Model Multiplication • Algebra Tiles - Multiply Binomials • Jeopardy! Exponents <ul style="list-style-type: none"> ○ E-mail Jim Lefeber for music <p><u>SBISD Cool Tools:</u></p> <ul style="list-style-type: none"> • Algebra Tiles Template 	<p style="text-align: right;">Math Home TAKS Resources</p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: http://nlvm.usu.edu</p>

Algebra I Scope and Sequence Fourth Six Weeks

Topic: Factoring Polynomials			
Topics	TEKS	Resources	PreAP Resources
<p>Section 8.1</p> <ul style="list-style-type: none"> • Greatest Common Factor <ul style="list-style-type: none"> ○ Prime Factorization ○ GCF of Numbers ○ GCF of Monomials <p>Section 8.2</p> <ul style="list-style-type: none"> • Factor by GCF <ul style="list-style-type: none"> ○ Factor out Monomial ○ By Grouping <p>Section 8.3</p> <ul style="list-style-type: none"> • Form $x^2 + bx + c$ <ul style="list-style-type: none"> ○ c is positive ○ c is negative ○ Area of Polygons <p>Section 8.4</p> <ul style="list-style-type: none"> • Form $ax^2 + bx + c$ <p>Section 8.5</p> <ul style="list-style-type: none"> • Special Products <ul style="list-style-type: none"> ○ Perfect Square Trinomial ○ Difference of Two Squares <p>Section 8.6</p> <ul style="list-style-type: none"> • Choosing a Method <ul style="list-style-type: none"> ○ Factor Completely 	<p>Section 8.1 – 8.6</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • A.4.A Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. 	<p>SBISD Flipchart</p> <ul style="list-style-type: none"> • Flipchart 8.1 • Flipchart 8.2 • Flipchart 8.3 • Flipchart 8.4 • Flipchart 8.5 Part 1 • Flipchart 8.5 Part 2 • Flipchart 8.6 • Flipchart Ch 8 Review <p>SBISD:</p> <ul style="list-style-type: none"> • Area Model factoring • Algebra Tiles Factoring • Finding Factors on the Calculator • Jeopardy! Multiply and Factoring <ul style="list-style-type: none"> ○ E-mail Jim Lefeber for music <p>SBISD Cool Tools:</p> <ul style="list-style-type: none"> • Algebra Tiles Template 	<p style="text-align: right;">Math Home TAKS Resources</p> <p>Laying The Foundation</p> <ul style="list-style-type: none"> • Another Way to Look at Factoring <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: http://nlvm.usu.edu</p>

Algebra I Scope and Sequence Fifth Six Weeks

Topic: Quadratic Functions		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 9.1</p> <ul style="list-style-type: none"> • Identify Quadratic Functions <ul style="list-style-type: none"> ○ Table – 2nd Difference ○ Equation ○ Max/Min ○ Domain and Range <p>Section 9.2</p> <ul style="list-style-type: none"> • Characteristics of Quadratic Functions <ul style="list-style-type: none"> ○ Zeros ○ Axis of Symmetry <ol style="list-style-type: none"> 1. Using Zeros 2. Using Formula ○ Vertex ○ Applications <p>Section 9.3</p> <ul style="list-style-type: none"> • Graphing Quadratic Functions <ul style="list-style-type: none"> ○ $y = ax^2 + bx + c$ ○ c is negative ○ Area of Polygons <p>Section 9.4</p> <ul style="list-style-type: none"> • Transforming Quadratic Functions <ul style="list-style-type: none"> ○ $y = ax^2 + c$ ○ Change a and c <p>Section 9.5</p> <ul style="list-style-type: none"> • Graphing <ul style="list-style-type: none"> ○ Zeros, Roots, Solutions, x – intercepts ○ Calculator 	<p>Section 9.1</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.2.A</u> Identify and sketch the general forms of linear ($y = x$) and quadratic ($y = x^2$) parent functions. • <u>A.2.B</u> Identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete. <p>TAKS OBJECTIVE 5</p> <ul style="list-style-type: none"> • A.9.A Determine the domain and range values for quadratic functions in given situations. • <u>A.9.B</u> Investigate, describe, and predict the effects of changes in a on the graph of $y = ax^2 + c$. <p>Section 9.2</p> <p>TAKS OBJECTIVE 5 (Not tested in grade 9)</p> <ul style="list-style-type: none"> • <u>A.10.A</u> Solve quadratic equations using concrete models, tables, graphs, and algebraic methods (Not tested on TAKS Grade 9). • <u>A.10.B</u> Make connections among the solutions (roots) of quadratic equations, the zeros of their related functions, and the horizontal intercepts (x-intercepts) of the graph of the function. (Not tested on TAKS Gr. 9). <p>Section 9.3</p> <p>TAKS OBJECTIVE 5 (Not tested in grade 9)</p> <ul style="list-style-type: none"> • <u>A.9.D</u> Analyze graphs of quadratic functions and draw conclusions. (Not tested on TAKS Grade 9). <p>Section 9.4</p> <p>TAKS OBJECTIVE 5</p> <ul style="list-style-type: none"> • <u>A.9.C</u> Investigate, describe, and predict the effects of changes in c on the graph of $y = x^2 + c$. <p>Section 9.5</p> <p>TAKS OBJECTIVE 5 (Not tested in grade 9)</p> <ul style="list-style-type: none"> • <u>A.10.A</u> Solve quadratic equations using concrete models, tables, graphs, and algebraic methods. 	<p>SBISD Flipchart</p> <ul style="list-style-type: none"> • <u>Flipchart 9.2</u> • <u>Flipchart 9.3</u> • <u>Flipchart 9.4</u> • <u>Flipchart 9.5</u> • <u>Flipchart 9.6</u> • <u>Flipchart 9.7</u> • <u>Flipchart 9.9</u> • <u>Flipchart Ch 9 Review</u> <p>TEXTEAMS:</p> <ul style="list-style-type: none"> • <u>2.2 Identifying More Patterns pages 67-81</u> • <u>1.1 Quadratic Relationships pages 319-335</u> • <u>1.2 Transformations pages 336-350</u> • <u>2.1 Connections pages 367-379</u> <p>SBISD:</p> <ul style="list-style-type: none"> • <u>Ball Bounce Day 1</u> • <u>Ball Bounce Day 2</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Investigating Graphing Quadratic Functions</u> • <u>Analysis of a Function</u> • <u>Characteristics of Functions</u> • <u>Quadratic Optimization</u> • <u>Graphing Quadratic Functions</u> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Fifth Six Weeks

Topic: Statistics			
		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 10.1</p> <ul style="list-style-type: none"> • Organizing and Displaying Data <ul style="list-style-type: none"> ○ Use Line Graphs ○ Use Bar Graphs ○ Use Circle Graphs <p>Section 10.2</p> <ul style="list-style-type: none"> • Frequency and Histograms <ul style="list-style-type: none"> ○ Create Stem – and – Leaf Graphs ○ Create Frequency Tables ○ Create a Histogram <p>Section 10.3</p> <ul style="list-style-type: none"> • Data Distributions <ul style="list-style-type: none"> ○ Mean ○ Median ○ Mode ○ Create a Box – And – Whisker Plot <p>Section 10.4</p> <ul style="list-style-type: none"> • Misleading Graphs and Statistics 	<p>Section 10.1 – 10.2</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.D</u> Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. <p>TAKS OBJECTIVE 9</p> <ul style="list-style-type: none"> • <u>8.12.C</u> Select and use an appropriate representation for presenting and displaying relationships among collected data, including line plots, line graphs, stem and leaf plots, circle graphs, bar graphs, box and whisker plots, histograms and Venn diagrams, with and without the use of technology. <p>Section 10.3</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.B</u> Gather and record data, and use data sets to determine functional relationships between quantities. <p>TAKS OBJECTIVE 9</p> <ul style="list-style-type: none"> • <u>8.12.A</u> Select the appropriate measure of central tendency or range to describe a set of data and justify the choice for a particular situation. <p>Section 10.4</p> <p>TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.D</u> Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. <p>TAKS OBJECTIVE 9</p> <ul style="list-style-type: none"> • <u>8.13.B</u> Recognize misuses of graphical or numerical information and evaluate predictions and conclusions based on data analysis. 	<p>SBISD</p> <ul style="list-style-type: none"> • <u>Multiple Data Representations High School</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Box-and-Whisker Plots (Middle School LTF)</u> <p>T³:</p> <p><u>MS Apps for TI-73</u> 8.12A, 8.12.C, 8.13B</p> <p><u>TI-73 in MS</u> 8.12A, 8.12.C, 8.13B</p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Fifth Six Weeks

Topic: Probability			
		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 10.5</p> <ul style="list-style-type: none"> • Experimental <ul style="list-style-type: none"> ○ Determine Probability ○ Predict Using Prob. <p>Section 10.6</p> <ul style="list-style-type: none"> • Theoretical <ul style="list-style-type: none"> ○ Determine Probability ○ Probability vs. Odds <p>Section 10.7</p> <ul style="list-style-type: none"> • Independent and Dependent Events 	<p>Section 10.5 – 10.6</p> <p>TAKS OBJECTIVE 9</p> <ul style="list-style-type: none"> • <u>8.11.B</u> Use theoretical probabilities and experimental results to make predictions and decisions. <p>Section 10.7</p> <p>TAKS OBJECTIVE 9</p> <ul style="list-style-type: none"> • <u>8.11.A</u> Find the probabilities of dependent and independent events. 	<p>SBISD</p> <ul style="list-style-type: none"> • <u>Probability Day 1 “OR”</u> • <u>Probability Day 2 “AND”</u> • <u>Probability Day 3 Theory vs. Experiment</u> 	<p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Fifth Six Weeks

Topic: Exploring Geometry		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<ul style="list-style-type: none"> • Properties, Polygons, Triangle & Parallelogram <ul style="list-style-type: none"> ○ Classifications by sides & angle measure • Pythagorean Theorem <ul style="list-style-type: none"> ○ Distance Formula • Geometry & Measurement <ul style="list-style-type: none"> ○ Plane figures - circle, triangle, parallelogram (including squares & rectangles), trapezoid 1. Review perimeter 2. Using formulas to find area, surface area (solve literal equations, too) 3. Investigate parameter changes 4. Transformations and Dilations 5. Applications <ul style="list-style-type: none"> ○ Solids – cubes, rectangular prisms, cylinders 1. Using formulas to find surface area, volume 2. Working with nets 	<p>TAKS OBJECTIVE 6</p> <ul style="list-style-type: none"> • <u>8.6.A</u> Generate similar figures using dilations including enlargements and reductions. • <u>8.6.B</u> Graph dilations, reflections, and translations on a coordinate plane. <u>G.5.C</u> <u>G.6.B</u> (Tested 2005) <u>G.10.A</u> • More Geometry TEKS <u>G.4.A</u> <u>G.5.B</u> <u>G.5.D</u> <p>TAKS OBJECTIVE 7</p> <ul style="list-style-type: none"> • <u>8.7.A</u> Draw three-dimensional figures from different perspectives. <u>G.6.B</u> <u>G.6.C</u> <u>G.9.D</u> (Tested 2005) • <u>8.7.B</u> Use geometric concepts and properties to solve problems in fields such as art and architecture. <u>G.7.A</u> • <u>8.7.C</u> Use pictures/models to demonstrate the Pythagorean Theorem. <u>G.7.C</u> <p>TAKS OBJECTIVE 8</p> <ul style="list-style-type: none"> • <u>8.8.A</u> Find lateral and total surface area of prisms, pyramids and cylinders using concrete models and nets (two-dimensional models). <u>G.8.A</u> • <u>8.8.B</u> Connect models of prisms, cylinders, pyramids, spheres, and cones to formulas for volume of these objects. • <u>8.8.C</u> Estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume. <u>G.8.D</u> • <u>8.9.A</u> Use the Pythagorean Theorem to solve real-life problems. <u>G.8.C</u> <u>G.11.C</u> • <u>8.9.B</u> Use proportional relationships in similar shapes to find missing measurements. <u>G.8.B</u> <u>G.11.A</u> <u>G.11.B</u> • <u>8.10.A</u> Describe the resulting effects on perimeter and area when dimensions of a shape are changed proportionally. • <u>8.10.B</u> Describe the resulting effect on volume when dimensions of solid are changed proportionally. <u>G.11.D</u> <p>TAKS OBJECTIVE 9</p> <ul style="list-style-type: none"> • <u>8.3.B</u> Estimate & find solutions to application problems involving percents & other proportional relationships such as similarity & rates. <p>TAKS OBJECTIVE 10</p> <ul style="list-style-type: none"> • <u>8.14.B</u> <u>8.14.C</u> <u>8.15.A</u> <u>8.16.B</u> 	<p>SBISD:</p> <ul style="list-style-type: none"> • <u>You're A Star for the Day</u> • Flat Head Continues with Perimeter/Area/Dilations • <u>Simplifying Square Roots on the Calculator</u> • <u>Jeopardy! Squares and Pythagorean Theorem</u> <ul style="list-style-type: none"> ○ E-mail Jim Lefeber for music • <u>Fudge Trays</u> <ul style="list-style-type: none"> ○ <u>20 x 24 Grid Paper</u> <p><u>SBISD Cool Tools:</u></p> <ul style="list-style-type: none"> • <u>Protractors</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Accumulating Area</u> • <u>Painting the House</u> • <u>Similar Triangles</u> <p>T³:</p> <p><u>Geometry Review on TI73</u> 8.7.B, 8.8A</p> <p>SBISD:</p> <p><u>TAKS Review: Transforming Fish</u> 8.6.</p> <p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Area and Equation of a Bounded Region</u> • <u>Area and Equation of a Bounded Region Alternate</u> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Sixth Six Weeks

Topic: Solve Quadratic Equations			
Topics	TEKS	Resources	PreAP Resources
<p>Section 9.5</p> <ul style="list-style-type: none"> • Graphing <ul style="list-style-type: none"> ○ Zeros, Roots, Solutions, x – intercepts ○ Calculator ○ Applications <p>Section 9.6</p> <ul style="list-style-type: none"> • Factoring <ul style="list-style-type: none"> ○ Zero Product Property ○ Probability vs. Odds <p>Section 9.7</p> <ul style="list-style-type: none"> • Square Roots <ul style="list-style-type: none"> ○ Independent and Dependent Events <p>Section 9.9</p> <ul style="list-style-type: none"> • Quadratic Formula <ul style="list-style-type: none"> ○ Discriminant ○ Choose the Best Method 	<p>Section 9.5 – 9.9</p> <p>TAKS OBJECTIVE 5 (Not tested in grade 9)</p> <ul style="list-style-type: none"> • A.10.A Solve quadratic equations using concrete models, tables, graphs, and algebraic methods. • A.10.B Make connections among the solutions (roots) of quadratic equations, the zeros of their related functions, and the horizontal intercepts (x-intercepts) of the graph of the function. 	<p>TEXTEAMS:</p> <ul style="list-style-type: none"> • 2.2 The Quadratic Formula pages 380-391 <p>SBISD:</p> <ul style="list-style-type: none"> • Solving Quadratic Equations: Word Problems • Ball Bounce Day 1 • Ball Bounce Day 2 	<p style="text-align: right;">Math Home TAKS Resources</p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: http://nlvm.usu.edu</p>

Algebra I Scope and Sequence Sixth Six Weeks

Topic: Exponential Functions			
	<u>Math Home</u>	<u>TAKS Resources</u>	
Topics	TEKS	Resources	PreAP Resources
<p>Section 11.1</p> <ul style="list-style-type: none"> • Geometric Sequences <ul style="list-style-type: none"> ○ Common Ratio ○ Write Equation <p>Section 11.2</p> <ul style="list-style-type: none"> • Exponential Functions <ul style="list-style-type: none"> ○ Evaluate ○ Graph <p>Section 11.3</p> <ul style="list-style-type: none"> • Growth and Decay <ul style="list-style-type: none"> ○ Finance ○ Half Life <p>Section 11.4</p> <ul style="list-style-type: none"> • Linear, Quadratic, and Exponential Models <ul style="list-style-type: none"> ○ 1st and 2nd Differences ○ Common Ratio 	<p>Section 11.1 TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.3.B</u> Look for patterns and represent generalizations algebraically. <p>Section 11.2 TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.C</u> Describe functional relationships for given problem situations and write equations or inequalities to answer questions arising from the situations. <p>Section 11.3 TAKS OBJECTIVE 5</p> <ul style="list-style-type: none"> • <u>A.11.A</u> Use patterns to generate the laws of exponents and apply them in problem-solving situations. • A.11.C Analyze data and represent situations involving exponential growth and decay using concrete models, tables, graphs, or algebraic methods. <p>Section 11.4 TAKS OBJECTIVE 1</p> <ul style="list-style-type: none"> • <u>A.1.D</u> Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. 	<p>Math ToolKit</p> <ul style="list-style-type: none"> • <u>Music and Mathematics</u> <p>TEXTEAMS:</p> <ul style="list-style-type: none"> • <u>3.1 Exponential Relationships p. 392-413</u> • <u>3.2 Exponential Growth and Decay pages 420-429</u> • <u>3.3 Exponential Models pages 434-444</u> • <u>4.1 Bounce It p. 445-456</u> <p>SBISD:</p> <ul style="list-style-type: none"> • <u>Ball Bounce Day 3</u> 	<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Exponential Function Exploration</u> • <u>Exponential Growth</u> • <u>A Study of Population Growth</u> <p>T³:</p> <p><u>Multiplying & Decaying M&Ms A.11.C</u> <u>Finance & Other APPS A.9.A, A.10.A, A.10.B</u></p> <p><u>Survivor Lab A.11.C</u></p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Sixth Six Weeks

Topic: Radical Functions (PreAP Only)			
	<u>Math Home</u>	<u>TAKS Resources</u>	
Topics	TEKS	Resources	PreAP Resources
<p>Section 11.5</p> <ul style="list-style-type: none"> • Square Root Functions <ul style="list-style-type: none"> ○ Domain and Range ○ Graph <p>Section 11.6</p> <ul style="list-style-type: none"> • Simplify Radical Expressions <p>Section 11.7 – 11.8</p> <ul style="list-style-type: none"> • Radical Expression Operations <ul style="list-style-type: none"> ○ Add and Subtract ○ Multiply and Divide ○ Rationalize the Denominator <p>Section 11.9</p> <ul style="list-style-type: none"> • Solve Radical Equations <ul style="list-style-type: none"> ○ Extraneous Solutions 	<p>Section 11.5</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.2.B</u> Identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete. • <u>A.4.A</u> Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. <p>Section 11.6 – 11.8</p> <ul style="list-style-type: none"> • 2A.2.A Use tools including factoring and properties of exponents to simplify expressions and to transform and solve equations. <p>Section 11.9</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.4.A</u> Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. 		<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Area and Equation of a Bounded Region</u> • <u>Area and Equation of a Bounded Region Alternate</u> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>

Algebra I Scope and Sequence Sixth Six Weeks

Topic: Rational Functions (PreAP Only)			
		<u>Math Home</u>	<u>TAKS Resources</u>
Topics	TEKS	Resources	PreAP Resources
<p>Section 12.1</p> <ul style="list-style-type: none"> • Inverse Variation <ul style="list-style-type: none"> ○ Graph ○ Write Equation <p>Section 12.2</p> <ul style="list-style-type: none"> • Rational Functions <ul style="list-style-type: none"> ○ Asymptotes ○ Graph <p>Section 12.3</p> <ul style="list-style-type: none"> • Simplify Rational Expressions <p>Section 12.4 – 12.5</p> <ul style="list-style-type: none"> • Rational Expression Operations <ul style="list-style-type: none"> ○ Multiply and Divide ○ Add and Subtract <p>Section 12.6</p> <ul style="list-style-type: none"> • Divide Polynomials <p>Section 12.7</p> <ul style="list-style-type: none"> • Solving Rational Equations <ul style="list-style-type: none"> ○ Extraneous Solutions 	<p>Section 12.1</p> <ul style="list-style-type: none"> • A.11.B Analyze data and represent situations involving inverse variation using concrete models, tables, graphs, or algebraic methods. <p>Section 12.2</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.2.B</u> Identify mathematical domains and ranges and determine reasonable domain and range values for given situations, both continuous and discrete. <p>Section 12.3</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.4.A</u> Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. <p>Section 12.4 – 12.6</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.4.B</u> Use the commutative, associative, and distributive properties to simplify algebraic expressions. <p>Section 12.7</p> <p>TAKS OBJECTIVE 2</p> <ul style="list-style-type: none"> • <u>A.4.A</u> Find specific function values, simplify polynomial expressions, transform and solve equations, and factor as necessary in problem situations. 		<p>Laying The Foundation</p> <ul style="list-style-type: none"> • <u>Exponential Function Exploration</u> • <u>Exponential Growth</u> • <u>A Study of Population Growth</u> <p>T³:</p> <p><u>Multiplying & Decaying M&Ms</u> <u>A.11.C</u></p> <p><u>Survivor Lab</u> <u>A.11.C</u></p> <p>Odyssey software</p> <p>National Library of Virtual Manipulatives: <u>http://nlvm.usu.edu</u></p>