Mathematics
Algebra I: Year at a Glance
2018 - 2019

Q1		Q2		Q3		Q4	
Module 1 **Aug. 6 – Oct. 5**		**Module 3** **Oct. 15 - Dec. 19**		**Module 4** **Jan. 7 – Mar. 8**		**Modules 2 and 5** **Mar. 18 – May 24** **TN Ready Testing**	
Module 1 **Relationships Between Quantities and Reasoning with Equations and Their Graphs**		**Module 3** **Linear and Exponential Functions**		**Module 4** **Polynomials and Quadratic Expressions, Equations, and Functions**		**Modules 2** **Descriptive Statistics** **Module 5** **A Synthesis of Modeling with Equations and Functions**	
A1. N.Q.A.1	A1.A.REI. C.4*	A1. A. SSE. B.3	A1. F.IF.C.8*	A1. A. SSE. A.1	A1. F.IF.C.6*	A1. N.Q.A.2	A1. S.ID.A.1
A1. N.Q.A.2	A1.A.REI. D.5*	A1. A. SSE. B.3c*	A1. F.BF.A.1	A1. A. SSE. A.2	A1. F.IF.C.7*	A1. N.Q.A.3	A1. S.ID.A.2
A1. N.Q.A.3	A1.A.REI. D.7*	A1. A. CED.A.1	A1. F.BF.A.1a	A1. A. SSE. B.3	A1. F.IF.C.8*	A1. A. CED.A.1	A1. S.ID.A.3
A1. A. APR.A.1		A1.A.REI. D.6*	A1. F.BF.B.2*	A1. A. APR.A.1	A1. F.BF.B.2	A1. A. CED.A.2	A1. S.ID.B.4
A1. A. CED.A.1		A1. F.IF.A.1	A1. F.LE.A.1a	A1. A. APR.B.2*		A1. F.IF.B.3*	A1. S.ID.B.4a
A1. A. CED.A.2		A1. F.IF.A.2	A1. F.LE.A.2	A1. A. REI.B.3*		A1. F.IF.B.4*	A1. S.ID.B.4b*
A1. A. CED.A.3		A1. F.IF.B.3*	A1. F.LE.A.3	A1. A. CED.A.1		A1. F.IF.B.5*	A1. S.ID.C.5
A1. A. CED.A.4		A1. F.IF.B.4*	A1. F.LE.B.4*	A1. A. CED.A.2		A1. F.BF.A.1	A1. S.ID.C.6
A1. A. SSE. A.1		A1. F.IF.B.5*		A1.A.REI. D.6*		A1. F.LE.A.1	A1. S.ID.C.7
A1. A. SSE. A.2		A1. F.IF.B.6*		A1. F.IF.B.3*		A1. F.LE.A.1b	
A1. A. REI.A.1		A1. F.IF.C.6a*		A1. F.IF.B.4*		A1. F.LE.A.1c	
A1.A.REI.B. 2*		A1. F.IF.C.6b*		A1. F.IF.B.5*		A1. F.LE.A.2	

Key: **Major Content** | **Supporting Content**

*** (asterisk) Indicates a standard with differences between the TN State Standards' numbering and/or verbiage and the standards in Eureka**

Note: Please use this suggested pacing as a guide. It is understood that teachers may be up to 1 week ahead or 1 week behind depending on the needs of their students.

Use the instructional map and Digital Suite resources as you prepare to teach a module for additional guidance in planning, pacing, and suggestions for omissions.

Introduction

Destination 2025, Shelby County Schools' 10-year strategic plan, is designed not only to improve the quality of public education, but also to create a more knowledgeable, productive workforce and ultimately benefit our entire community.

What will success look like?

In order to achieve these ambitious goals, we must collectively work to provide our students with high quality, college and career ready aligned instruction. The Tennessee State Standards provide a common set of expectations for what students will know and be able to do at the end of a grade. The State of Tennessee provides two sets of standards, which include the Standards for Mathematical Content and The Standards for Mathematical Practice. The Content Standards set high expectations for all students to ensure that Tennessee graduates are prepared to meet the rigorous demands of mathematical understanding for college and career. The eight Standards for Mathematical Practice describe the varieties of expertise, habits of mind, and productive dispositions that educators seek to develop in all students. The Tennessee State Standards also represent three fundamental shifts in mathematics instruction: **focus, coherence and rigor**.

Curriculum and Instruction – Mathematics

Quarter 3 Algebra I

The **Standards for Mathematical Practice** describe varieties of expertise, habits of minds and productive dispositions that mathematics educators at all levels should seek to develop in their students. These practices rest on important National Council of Teachers of Mathematics (NCTM) "processes and proficiencies" with longstanding importance in mathematics education. Throughout the year, students should continue to develop proficiency with the eight Standards for Mathematical Practice. The following are the eight Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of them.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

This curriculum map is designed to help teachers make effective decisions about what mathematical content to teach so that ultimately our students can reach Destination 2025. Throughout this curriculum map, you will see resources as well as links to tasks that will support you in ensuring that students are able to reach the demands of the standards in your classroom. In addition to the resources embedded in the map, there are some high-leverage resources around the content standards and mathematical practice standards that teachers should consistently access. For a full description of each, click on the links below.

- Tennessee Mathematics Content Standards
- Standards for Mathematical Practice
- Literacy Skills for Mathematical Proficency

Structure of the Standards

Structure of the TN State Standards include:

- **Content Standards** - Statements of what a student should know, understand, and be able to do.
- **Clusters** - Groups of related standards. Cluster headings may be considered as the big idea(s) that the group of standards they represent are addressing. They are therefore useful as a quick summary of the progression of ideas that the standards in a domain are covering and can help teachers to determine the focus of the standards they are teaching.
- **Domains** - A large category of mathematics that the clusters and their respective content standards delineate and address. For example, Number and Operations – Fractions is a domain under which there are a number of clusters (the big ideas that will be addressed) along with their respective content standards, which give the specifics of what the student should know, understand, and be able to do when working with fractions.
- **Conceptual Categories** – The content standards, clusters, and domains in the 9th-12th grades are further organized under conceptual categories. These are very broad categories of mathematical thought and lend themselves to the organization of high school course work. For example, Algebra is a conceptual category in the high school standards under which are domains such as Seeing Structure in Expressions, Creating Equations, Arithmetic with Polynomials and Rational Expressions, etc.

How to Use the Maps

Overview
An overview is provided for each quarter and includes the topics, focus standards, intended rigor of the standards and foundational skills needed for success of those standards.

Your curriculum map contains four columns that each highlight specific instructional components. Use the details below as a guide for information included in each column.

Tennessee State Standards
TN State Standards are located in the left column. Each content standard is identified as Major Content or Supporting Content. A key can be found at the bottom of the map.

Content
This section contains learning objectives based upon the TN State Standards. Best practices tell us that clearly communicating measurable objectives lead to greater student understanding. Additionally, essential questions are provided to guide student exploration and inquiry.

Instructional Support
District and web-based resources have been provided in the Instructional Support column. You will find a variety of instructional resources that align with the content standards. The additional resources provided should be used as needed for content support and scaffolding.

Vocabulary and Fluency
The inclusion of vocabulary serves as a resource for teacher planning and for building a common language across K-12 mathematics. One of the goals for Tennessee State Standards is to create a common language, and the expectation is that teachers will embed this language throughout their daily lessons. In order to aid your planning, we have also included a list of fluency activities for each lesson. It is expected that fluency practice will be a part of your daily instruction. (Note: Fluency practice is not intended to be speed drills, but rather an intentional sequence to support student automaticity. Conceptual understanding must underpin the work of fluency.

Instructional Calendar
As a support to teachers and leaders, an instructional calendar is provided ***as a guide***. Teachers should use this calendar for effective planning and pacing, and leaders should use this calendar to provide *support* for teachers. Due to variances in class schedules and differentiated support that may be needed for students' adjustment to the calendar may be required.

Topics Addressed in Quarter

Topic A: Quadratic Expressions, Equations, Functions, and Their Connection to Rectangles
Topic B: Using Different Forms for Quadratic Functions
Topic C: Function Transformations and Modeling

Time Frame: January 7 – March 8, 2019

Overview

In Algebra I, students have been analyzing the process of solving equations and developing fluency in writing, interpreting, and translating among various forms of linear equations (Module 1) and linear and exponential functions (Module 3). These experiences set the stage for Module 4. Here, students continue to interpret expressions, create equations, rewrite equations and functions in different but equivalent forms, and graph and interpret functions using polynomial functions more specifically quadratic functions as well as square root and cube root functions.

Grade Level Standard	Type of Rigor	Foundational Standards
A1. A. SSE.A.1	Conceptual Understanding	6.EE.A.2b, 7. EE.A.2
A1. A. SSE.A.2	Conceptual Understanding	6.EE.A.3, 7. EE.A.1
A1. A. SSE. B.3	Conceptual Understanding, Procedural Fluency	6.EE.A.3, 7. EE.A.1
A1. A. APR.A.1	Conceptual Understanding & Procedural Fluency	6.EE.A.3, 6. EE.A.4, 7. EE.A.1, 8. EE.A.1
A1. A. REI.B.3*	Conceptual Understanding & Procedural Fluency	7. EE.A.1, 8. EE.A.2
A1.A.REI. D.6*	Conceptual Understanding & Procedural Fluency	8. EE.C.8a, 8. EE.C.8b
A1. A. CED.A.1	Conceptual Understanding, Procedural Fluency & Application	7. EE.B.4, 8. EE.C.7
A1. A. CED.A.2	Conceptual Understanding, Procedural Fluency & Application	8. EE.C.8, 8.F.A.3, 8. F.B.4
A1. F.IF.B.3*	Conceptual Understanding	8.F.B.5
A1. F.IF.B.4*	Conceptual Understanding	
A1. F.IF.B.5*	Conceptual Understanding & Procedural Fluency	8.F.B.4

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Quarter 3 **Algebra I**

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY

Module 4: Polynomial and Quadratic Expressions, Equations, and Functions

Algebra I Pacing and Preparation Guide

Allow approximately 3 weeks for instruction, review and assessment of Topic A

Mid-Module 4 Assessment Window – January 29-31

Allow 1.5 weeks for instruction, review and assessment of Topic B

Allow approximately 2.5 weeks for instruction, review and assessment of Topic C

End-of-Module 4 Assessment Window – March 4-7

Domain: Seeing Structure in Expressions

Cluster: Interpret the structure of expressions.

- A1. A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it.
  For example, recognize $53^2 – 47^2$ as a difference of squares and see an opportunity to rewrite it in the easier to evaluate form (53 + 47) (53 – 47). See an opportunity to rewrite $a^2 + 9a + 14$ as (a + 7) (a + 2).

Domain: Arithmetic with Polynomials and Rational Expressions

Cluster: Perform arithmetic operations on polynomials

- A1. A. APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Domain: Creating Equations

Cluster Create equations that describe numbers or relationships.

- A1. A-CED.A.1 Create equations and inequalities in one variable and use them to solve problems.
  Tasks are limited to linear, quadratic, or exponential equations with integer exponents.

Domain: Reasoning with Equations and Inequalities

Essential Questions:

- What is the importance of identifying the structure of an expression and ways to rewrite it?
- Why is it important to solve and produce equivalent forms of an expression?
- When is factoring the best method to solve a quadratic equation?
- Why is it important to know the operations of integers to understand the properties of polynomials?
- How are the methods of solving a quadratic equation related?
- What does factoring mean?
- How do quadratic functions compare to linear functions?
- What are the connections between different representations of quadratics?
- What do the solutions of a quadratic represent?
- How can we apply quadratics to real life situations?

Topic A Objectives

Lesson 1:

- Students use the distributive property to multiply a monomial by a polynomial and understand that factoring reverses the multiplication process.
- Students use polynomial expressions as side lengths of polygons and find area by multiplying.

Topic A: Quadratic Expressions, Equations, Functions, and Their Connection to Rectangles

Lesson 1
Lesson 2
Lesson 3
Lesson 4
Lesson 5
Lesson 6
Lesson 7
Lesson 8
Lesson 9
Lesson 10

Special Note: *It is recommended that teachers assess student gaps and scaffold accordingly using the resources/ tasks/lessons in the Resource Toolbox or those provided under Additional Resources.*

Also, assessments other than Mid-Module and End-of-Module assessments should be given based upon the lessons taught and the needs of the students.

Additional Resources:

Khan Academy Videos: Quadratics and Polynomials

Task(s)

Polynomial Farm

Vocabulary/Familiar Terms and Symbols fo Module 4:

Average rate of change
Binomial
Closed
Closure
Coefficient
Cube root
Cubic
Degree of a polynomial
Domain and range
Explicit expression
Factor
Integers
Irrational numbers
Monomial
Parabola
Power
Quadratic
Rational numbers
Real numbers
Recursive process
Solution set
Solutions (solution set) of an equation
Square root
Term
Trinomial
Zeros of a function

New or Recently Introduced Terms for Module 4

Axis of symmetry of the graph of a quadratic function

Curriculum and Instruction – Mathematics

Quarter 3 — Algebra I

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
Cluster: Solve equations and inequalities in one variable. ■ A-REI.B.3b Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, knowing and applying the quadratic formula, and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions. *For A1. A. REI.B.3b: Tasks do not require students to write solutions for quadratic equations that have roots with nonzero imaginary parts. However, tasks can require the student to recognize cases in which a quadratic equation has no real solutions.* ■ A-REI.B.3a Use the method of completing the square to rewrite any quadratic equation in x into an equation of the form $(x – p)2 = q$ that has the same solutions. Derive the quadratic formula from this form. **Domain:** Interpreting Functions **Cluster:** Interpret functions that arise in applications in terms of the context. ■ F-IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. **Domain**: Interpreting Functions **Cluster:** Analyze functions using different	• Students recognize patterns and formulate shortcuts for writing the expanded form of binomials whose expanded form is a perfect square or the difference of perfect squares. **Lesson 2** • Students understand that factoring reverses the multiplication process as they find the linear factors of basic, factorable quadratic trinomials. **Lesson 3:** • Students develop strategies for factoring quadratic expressions that are not easily factorable, making use of the structure of the quadratic expression. **Lesson 4:** • Students factor quadratic expressions that cannot be easily factored and develop additional strategies for factorization, including splitting the linear term, using graphing calculators, and using geometric or tabular models. **Lesson 5**: • Students solve increasingly complex one-variable equations, some of which need algebraic manipulation, including factoring as a first step and using the zero product property. **Lesson 6**: • Students use appropriate and efficient strategies to find solutions to basic quadratic equations. • Students interpret the verbal description of a problem and its solutions in context and then justify the solutions using algebraic reasoning. **Lesson 7:** • Students interpret word problems to create equations in one variable and solve them (i.e., determine the solution	Illustrative: Non-negative Polynomials Illustrative Math: Powers of 11 Math Shell: Arithmetic with Polynomials and Rational Expressions Achieve the Core: Factored Form of a Quadratic Function MathBits Algebra I Notebook **Mid-Module 4 Assessment** ***(Complete by 1/31/19;*** *carefully select appropriate problems)*	Cube root function Cubic function Degree of a monomial term Degree of a polynomial Discriminant End behavior of a quadratic function Factored form for a quadratic function Leading coefficient Parent function Quadratic formula Quadratic function Roots of a polynomial function Square root function Standard form for a quadratic function Standard form of a polynomial in one Vertex form Vertex of the graph of a quadratic

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
representations. ➢ A1. F.IF.C.6 Graph functions expressed symbolically and show key features of the graph, by hand and using technology. **a.** Graph linear and quadratic functions and show intercepts, maxima, and minima. **Domain:** Arithmetic with Polynomials and Rational Expressions **Cluster:** Understand the relationships between zeros and factors of polynomials. ➢ A1. A. APR.B.2 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. *Graphing is limited to linear and quadratic polynomials.* **Domain**: Interpreting Functions **Cluster:** Interpret functions that arise in applications in terms of the context. ■ **A1. F.IF.B.3 (formerly F.IF.B.4)** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. **Domain**: Interpreting Functions **Cluster:** Interpret functions that arise in applications in terms of the context. ➢ **A1. F.IF.B.3 (formerly F.IF.B.6)** Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of	set) using factoring and the zero product property. **Lesson 8**: • Students examine quadratic equations in two variables represented graphically on a coordinate plane and recognize the symmetry of the graph. They explore key features of graphs of quadratic functions: y-intercept and x-intercept, the vertex, the axis of symmetry, increasing and decreasing intervals, negative and positive intervals, and end behavior. They sketch graphs of quadratic functions as a symmetric curve with a highest or lowest point corresponding to its vertex and an axis of symmetry passing through the vertex. **Lessons 9:** • Students use the factored form of a quadratic equation to construct a rough graph, use the graph of a quadratic equation to construct a quadratic equation in factored form, and relate the solutions of a quadratic equation in one variable to the zeros of the function it defines. • Students understand that the number of zeros in a polynomial function corresponds to the number of linear factors of the related expression and that different functions may have the same zeros but different maxima or minima. **Lessons 10:** • Students interpret quadratic functions from graphs and tables: zeros (xx-intercepts), yy-intercept, the minimum or maximum value (vertex), the graph's axis of symmetry, positive and negative values for the function, increasing and decreasing intervals, and the graph's end behavior.		

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
change from a graph. ⍰ *i) Tasks have a real-world context.* *ii) Tasks are limited to linear functions, quadratic functions, piecewise-defined functions (including step functions and absolute value functions), and exponential functions with domains in the integers.*	• Students determine an appropriate domain and range for a function's graph and when given a quadratic function in a context, recognize restrictions on the domain.		
	Topic B Objectives: **Lesson 11:** • Students rewrite quadratic expressions given in standard form, $ax^2 + bx + c$ (with $a = 1$), in the equivalent completed-square form, $a(x-h)^2 + k$, and recognize cases for which factored or completed-square form is most efficient to use. **Lesson 12**: • Students rewrite quadratic expressions given in standard form, $ax^2 + bx + c$ (with $a \neq 1$), as equivalent expressions in completed-square form $a(x-h)^2 + k$. They build quadratic expressions in basic business application contexts and rewrite them in equivalent forms. **Lesson 13:** • Students solve complex quadratic equations, including those with a leading coefficient other than 1, by completing the square. Some solutions may be irrational. Students draw conclusions about the properties of irrational numbers, including closure for the irrational number system under various operations. **Lesson 14:** • Students derive the quadratic formula by completing the square for a general quadratic equation in standard form, $ax^2 + bx + c = 0$, and use it to verify the solutions for equations from the previous lesson for which they have already factored or completed the square. **Lesson 15:**	**Topic B: Using Different Forms for Quadratic Functions** Lesson 11 Lesson 12 Lesson 13 Lesson 14 Lesson 15 Lesson 16 Lesson 17 **Special Note:** *It is recommended that teachers assess student gaps and scaffold accordingly using the resources/ tasks/lessons in the Resource Toolbox or those provided under Additional Resources.* *Also, assessments other than Mid-Module and End-of-Module assessments should be given based upon the lessons taught and the needs of the students.* **Additional Resources:** Khan Academy Videos: Quadratics and Polynomials TN Task Arc: Developing an Understanding of Quadratics MathBits Algebra I Notebook	

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
	• Students use the quadratic formula to solve quadratic equations that cannot be easily factored. • Students understand that the discriminant, $bb2 \square 4aaaa$, can be used to determine whether a quadratic equation has one, two, or no real solutions. **Lesson 16:** • Students graph simple quadratic equations of the form $y = a(x \square h)^2 + k$ (completed-square or vertex form), recognizing that (h, k) represents the vertex of the graph and use a graph to construct a quadratic equation in vertex form. • Students understand the relationship between the leading coefficient of a quadratic function and its concavity and slope and recognize that an infinite number of quadratic functions share the same vertex. **Lesson 17:** • Students graph a variety of quadratic functions using the form $f(x) = ax^2 + bx + c$ (standard form). • Students analyze and draw conclusions about contextual applications using the key features of a function and its graph.		
Domain: Reasoning with Equations and Inequalities **Cluster:** Represent and solve equations and inequalities graphically. A1. A. REI.D.6 **(formerly A. REI.D.11)** Explain why the *x*-coordinates of the points where the graphs of the equations *y = f(x)* and *y = g(x)* intersect are the solutions of the equation *f(x) = g(x)*; find the approximate solutions using	**Topic C Objectives:** **Lesson 18:** Students compare the basic quadratic (parent) function, $y = x^2$, to the square root function and do the same with cubic and cube root functions. They then sketch graphs of square root and cube root functions, taking into consideration any constraints on the domain and range. **Lesson 19:** Students recognize and use parent functions	**Topic C: Transformations of Functions** Lesson 18 Lesson 19 Lesson 20 Lesson 21 Lesson 22 (omit) Lesson 23 (optional) Lesson 24 (optional) **Additional Resource(s):**	

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
technology. **Domain**: Interpreting Functions **Cluster:** Analyze functions using different representations. ➢ **A1. F.IF.C.6 (formerly F.IF.C.7)** Graph functions expressed symbolically and show key features of the graph, by hand and using technology. **a**. Graph linear and quadratic functions and show intercepts, maxima, and minima. **Domain**: Building Functions **Cluster:** Build new functions from existing functions. ➢ **A1. F.BF.B.2 (formerly F.BF.B.3)** Identify the effect on the graph of replacing *f(x)* by *f(x) + k*, *k f(x)*, *f(kx)*, and *f(x + k)* for specific values of *k* (both positive and negative); find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.	for linear, absolute value, quadratic, square root, and cube root functions to perform vertical and horizontal translations. They identify how the graph of $y = f(x)$ relates to the graphs of $yy = f(x) + k$ and $y = f(x + k)$ for any specific values of k, positive or negative, and find the constant value, k, given the parent functions and the translated graphs. Students write the function representing the translated graphs. **Lesson 20:** • Students recognize and use parent functions for absolute value, quadratic, square root, and cube root to perform transformations that stretch and shrink the graphs of the functions. They identify the effect on the graph of $y = f(x)$ when $f(x)$ is replaced with $kf(x)$ and $f(kx)$, for any specified value of k, positive or negative, and identify the constant value, k, given the graphs of the parent functions and the transformed functions. Students write the formulas for the transformed functions given their graphs. **Lesson 21:** • Students make a connection between the symbolic and graphic forms of quadratic equations in the completed-square (vertex) form. They efficiently sketch a graph of a quadratic function in the form, $f(x) = a(x - h)^2 + k$, by transforming the quadratic parent function, $f(x) = x^2$, without the use of technology. They then write a function defined by a quadratic graph by transforming the quadratic parent function. **Lesson 22:** • Students compare two different quadratic, square root, or cube root functions represented as graphs, tables, or	Khan Academy Videos: Absolute Value and Piecewise Functions MathBits Algebra I Notebook **Special Note:** *It is recommended that teachers assess student gaps and scaffold accordingly using the resources/ tasks/lessons in the Resource Toolbox or those provided under Additional Resources.* *Also, assessments other than Mid-Module and End-of-Module assessments should be given based upon the lessons taught and the needs of the students.* **End-of-Module 4 Assessment (Complete by 3/7/19**; *carefully select appropriate problems*) **Special Note**: *It is recommended that teachers should begin preparing for next quarter with by attending the Module Study for Module 2 that will be held towards the end of the quarter.*	

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
	equations. They interpret, contextualize, and abstract various scenarios to complete the comparative analysis. **Lesson 23:** • Students write the quadratic function described verbally in a given context. They graph, interpret, analyze, check results, draw conclusions, and apply key features of a quadratic function to real-life applications in business and physics. **Lesson 24:** • Students create a quadratic function from a data set based on a contextual situation, sketch its graph, and interpret both the function and the graph in context. They answer questions and make predictions related to the data, the quadratic function, and graph.		

Curriculum and Instruction – Mathematics

Quarter 3 — Algebra I

RESOURCE TOOLBOX		
Standards ***Teacher Guide* to Algebra I Standards: Linear Equations** **HS Flip Book with Examples of Each Standard** CCSS http://www.ccsstoolbox.org/ http://parcconline.org/ Achieve **Tennessee Academic Standards for Mathematics** **Tennessee Assessment LiveBinder**		**Videos** Khan Academy The Futures Channel The Teaching Channel Illuminations (NCTM) Get The Math
Calculator http://www.atomiclearning.com/ti_84 TICommonCore.com http://www.casioeducation.com/educators	**Manipulatives/Other Resources** **Algebra Tiles** MathBits Algebra I Notebook Problem Attic OpenEd National Library of Virtual Manipulatives http://www.shodor.org/interactivate/activities/ Edugoodies Graphic Organizers (9-12)	**NWEA MAP** **Resources:**https://teach.mapnwea.org/assist/help_map/ApplicanHelp.htm#UsingTestResults/MAPReportsFinder.htm - Sign in and Click the Learning Continuum Tab – this resources will help as you plan for intervention, and differentiating small group instruction on the skill you are currently teaching. (Four Ways to Impact Teaching with the Learning Continuum) https://support.nwea.org/khanrit - These Khan Academy lessons are aligned to RIT scores.
Tasks/Lessons Edutoolbox (formerly Tncore.org) Mathematics Assessment Project (MARS Tasks, Lessons & PD Modules) Dan Meyer's Three-Act Math Tasks Illustrative Math Tasks UT Dana Center Inside Math Tasks LearnZillion		**ACT** TN ACT Information & Resources ACT College & Career Readiness Mathematics Standards

Shelby County Schools – Algebra I - January 2019					
Mon	**Tue**	**Wed**	**Thu**	**Fri**	
	1	**2**	**3** Prepare to teach Module 4	**4**	
7 Q3 Begins Module 4, Topic A (Lessons 1-10)	**8**	**9**	**10**	**11**	
14 Module 4, Topic A cont.	**15**	**16**	**17**	**18**	
21 M L King Day	**22** Module 4, Topic A cont.	**23**	**24**	**25**	
28	**29** Module 4 Mid-Module Assessment (Topic A) Window Begins	**30** Prepare to launch Module 4, Topic B	**31** Module 4 Mid-Module Assessment (Topic A) Due		

Shelby County Schools – Algebra I - February 2019					
Mon	**Tue**	**Wed**	**Thu**	**Fri**	
				1 Module 4, Topic B (Lessons 11-17)	
4 Module 4, Topic B) cont.	**5**	**6**	**7**	**8**	
11 Module 4, Topic B cont.	**12** Prepare to launch Module 4, Topic C	**13** Module 4, Topic C (Lessons 18-21, omit 22, 23 & 24 optional)	**14**	**15**	
18 Module 4, Topic C cont.	**19**	**20**	**21**	**22**	
25 Module 4, Topic C cont.	**26**	**27**	**28**		

Shelby County Schools – Algebra I - March 2019					
Mon	**Tue**	**Wed**	**Thu**	**Fri**	
				1	
4 End-of-Module Assessment, Remediation and/or further Application	**5**	**6**	**7** End-of-Module 4 Assessment (Topics A – C) due	**8** Q3 Ends Prepare to launch Module 2	
11 Spring Break	**12** Spring Break	**13** Spring Break	**14** Spring Break	**15** Spring Break	
18 Q4 Begins Module 2, Topic A	**19**	**20**	**21** Module 2, Topic B	**22**	
25 Module 2, Topic B cot.	**26**	**27**	**28** Mid-Module Assessment, Remediation and/or further Application	**29**	