

**Roanoke County Public Schools**

# **Advanced Algebra I**

## **CURRICULUM GUIDE**

(Middle School)  
2019

## Mathematics Curriculum Guide

Revised 2019. Available at [www.rcps.us](http://www.rcps.us).

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## Acknowledgements

The following people have made tremendous contributions to the completion of this curriculum guide and all are appreciated.

Dana Bryan  
Cave Spring High

Ann Fajardo  
Glenvar Middle

Emily Parisi  
Cave Spring Middle

Carli Barnett  
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## Preface

This guide will assist the mathematics teacher in preparing students for the challenges of the twenty-first century. As established by the National Council of Teachers of Mathematics *Principles and Standards for School Mathematics*, educational goals for students are changing. A comprehensive and coherent set of mathematics standards for each and every student from prekindergarten through grade 12, *Principles and Standards* is the first set of rigorous, college and career readiness standards for the 21st century. Students should have many and varied experiences in their mathematical training to help them learn to value mathematics, become confident in their ability to do mathematics, become problem solvers, and learn to communicate and reason mathematically. This guide, along with the available division resources, VDOE resources, professional literature, alternative assessment methods, and in-service activities will assist the mathematics teacher in continuing to integrate these student goals into the curriculum.

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## Introduction/General Comments

This curriculum guide follows the 2016 Virginia Algebra I SOLs as adopted by the Virginia Department of Education. It is extremely important and required that the Sequence of Instruction and Pacing be followed as presented in this guide. Topic references from the textbook, *Virginia Algebra I*, (2019 edition) by Houghton-Mifflin-Harcourt are listed in this curriculum guide in the Resources sections.

Students will take three formative assessments during the year (dates to be determined annually). Each teacher-designed test will assess skill levels of the SOLs as presented in the Sequence of Instruction and Pacing and the formative assessment blueprint. The data collected from the formative assessments will help teachers determine students' strengths and weaknesses, and inform instructional decisions.

The Mapping for Instruction is based on specified SOLs which are to be taught in the predetermined order. Note, some SOLs (or their parts) may be taught over multiple 9-week periods.

Refer to the Mathematics 2016 Standards of Learning Algebra I Curriculum Framework during every lesson. It is located at the back of this guide. This will provide valuable information for the teacher (Understanding the Standard) and desired goals for instruction (Essential Knowledge and Skills). Examples of teaching techniques and strategies, definitions, and recommended manipulatives are included in the Curriculum Framework and on the VDOE website under Mathematics Instructional Plans (MIPs)

[http://www.doe.virginia.gov/testing/sol/standards\\_docs/mathematics/2016/mip/index.shtml](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/mip/index.shtml).

## Resources Overview

### **Resources for all SOLs**

IXL

PowerSchool

BrainPop

HMH – Think Central

VDOE

Mathematics Instructional Plans (MIPs): [http://www.doe.virginia.gov/testing/sol/standards\\_docs/mathematics/2016/mip/index.shtml#a1](http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/mip/index.shtml#a1)

Desmos: <https://teacher.desmos.com/>

Promethean Planet

Number Talks

Performance Tasks

RCPS Common Assessments (pretests, formative assessments, posttests)

[get2math](#)

[mathbitsnotebook.com](#) Algebra I

[coolmath.com](#) – algebra

[mathisfun.com](#) - algebra

Quizizz.com

Kahoot

Khan Academy

| Sequence of Instruction and Pacing        |  |             |                   |   |      |                  |   |      |                            |  |        |
|---|--|-------------|-------------------|---|------|------------------|---|------|----------------------------|--|--------|
| First Nine Weeks                          |  |             | Second Nine Weeks |   |      | Third Nine Weeks |   |      | Fourth Nine Weeks          |  |        |
| SOL                                       | Instructional Focus  | Blks        | SOL               | Instructional Focus   | Blks | SOL              | Instructional Focus   | Blks | SOL                        | Instructional Focus  | Blks   |
| <b>A.1ab</b>                              | Write algebraic expressions/equations<br>Translate expressions and equations:<br><ul style="list-style-type: none"> <li>Verbal to algebraic</li> <li>Algebraic to verbal</li> </ul> Evaluate algebraic expressions | 5           | <b>A.7abdef</b>   | Analyze and investigate functions (is it a function?)<br>Identify domain, range, zeros, and intercepts<br>Determine $f(x)$ for a value of $x$<br>Represent relations and functions using verbal descriptions, tables, equations, and graphs<br>Calculator use | 12   | <b>A.4de</b>     | Solve systems of linear equations algebraically and graphically<br>Solve practical problems             | 5    | <b>A.2bc</b>               | Polynomials<br>-Completely factor<br>-quotients  | 7      |
|   |  |             |                   |   |      | <b>A.5bcd</b>    | Graph solution to two variable linear inequalities<br>Solve a system of linear inequalities graphically | 4    | <b>A.7b-f</b>              | Analyze and investigate quadratic functions<br>Identify domain, range, zeros, and intercepts<br>Confirm factors<br>Determine $f(x)$ for a value of $x$<br>Represent relations and functions using verbal descriptions, tables, equations, and graphs<br>Calculator use | 2      |
| <b>A.3ab</b>                              | Simplify square and cube roots (limited to perfect squares and cubes)  | 2           | <b>A.6abc</b>     | Write and graph linear equations (include vertical and horizontal lines)<br>Determine slope   | 16   | <b>A.2a</b>      | Simplify monomials and ratios of monomial expressions using the laws of exponents                       | 6    | <b>A.4b</b><br><b>8.9b</b> | Solve quadratic equations algebraically<br><b>Pythagorean Theorem</b>  | 6<br>1 |
| <b>A.4ace</b><br><b>8.4</b><br><b>8.5</b> | Solve multistep linear equations algebraically<br>Solve multistep literal equations for one variable<br>Solve practical problems<br><b>Percentage Change</b><br><b>Angle Relationships</b>                         | 18<br><br>2 | <b>A.8</b>        | Direct and inverse variation  | 5    | <b>A.3abc</b>    | Simplify expressions including square and cube roots (not limited to perfect squares and cubes)         | 6    | <b>A.9</b>                 | Find curve of best fit, make predictions, and solve practical problems   | 6      |

|              |  |           |  |                                 |           |                            |   |             |                |   |            |
|--------------|--|-----------|--|---------------------------------|-----------|----------------------------|---|-------------|----------------|---|------------|
| <b>A.5ac</b> | Solve and graph multistep inequalities in one variable<br>Solve practical problems | 8         |  |                                 |           | <b>A.2b</b><br><b>8.10</b> | Polynomials:<br>- Sums, differences, and products<br><br><b>Composite Figures</b> | 10<br><br>2 |                | SOL Review and Enrichment   | 12         |
|              | Remediation, Review, Assessment  | 10        |  | Remediation, Review, Assessment | 12        |                            | Remediation, Review, Assessment   | 12          | <b>8.12abc</b> | <b>Box Plots and Rationalizing Denominators (after SOL test)</b><br>Remediation, Review, Assessment | 2<br><br>9 |
|              | <b>Total Blocks</b>  | <b>45</b> |  | <b>Total Blocks</b>             | <b>45</b> |                            | <b>Total Blocks</b>   | <b>45</b>   |                | <b>Total Blocks</b>   | <b>45</b>  |

**DESMOS CALCULATOR**

The Desmos [Virginia Graphing Calculator](#) will be used for instruction and assessment.

**Mapping for Instruction - First Nine Weeks**

- SOLs**
- A.1 The student will**
- a) represent verbal quantitative situations algebraically; and
  - b) evaluate algebraic expressions for given replacement values of the variables.
- A.3 The student will simplify**
- a) square roots of whole numbers and monomial algebraic expressions;
  - b) cube roots of integers; and
- A.4 The student will solve**
- a) multistep linear equations in one variable algebraically;
  - c) literal equations for a specified variable;
  - e) practical problems involving equations and systems of equations.
- A.5 The student will**
- a) solve multistep linear inequalities in one variable algebraically and represent the solution graphically;
  - c) solve practical problems involving inequalities; and
- 8.4 The student will solve practical problems involving consumer applications.**
- 8.5 The student will use the relationships among pairs of angles that are vertical angles, adjacent angles, supplementary angles, and complementary angles to determine the measure of unknown angles.**

| SOL          | Instructional Focus  | Vocabulary  | Comments   | Blocks |
|--------------|--|---|--|--------|
| <b>A.1ab</b> | <p><b>Write quantitative expressions/equations:</b></p> <ul style="list-style-type: none"> <li>• Verbal to algebraic</li> <li>• Algebraic to verbal</li> </ul> <p><b>Evaluate algebraic expressions:</b></p> <ul style="list-style-type: none"> <li>• Apply order of operations</li> <li>• Absolute value</li> <li>• Square roots</li> <li>• Cube roots</li> </ul> <p><b>Practical situations:</b></p> <ul style="list-style-type: none"> <li>• Concrete, pictorial, symbolic, verbal</li> </ul> | Algebraic, numerical, equation, expression, inequality, substitution, absolute value, square root, cube root, rational, irrational, integer, exponent, squared, cubed, parentheses, brackets, braces, order of operations, variable, coefficient, translation<br>Symbols: abs value - $  \quad  $ , square root - $\sqrt{\quad}$<br>cube root - $\sqrt[3]{\quad}$ |  | 5      |
| <b>A.3ab</b> | <p><b>Simplify square and cube roots (limited to perfect squares and cubes)</b></p>  | Square root, cube root, perfect square, cubing, perfect cube, radical, inverse, consecutive   | <p><i>Simplify ONLY perfect squares and perfect cubes during <u>this</u> nine weeks.</i></p> <p><i>Simplifying non-perfect radicals and expressions is taught in the third nine weeks within order of operations and replacement value problems.</i></p> | 2      |

|               |  |   |  |           |
|---------------|--|---|--|-----------|
| <b>A.4ace</b> | <p><b>Apply properties to simplify expressions and solve multistep linear equations algebraically</b></p> <p><b>Determine if there are one, infinite, zero solutions</b></p> <p><b>Solve multistep literal equations for a specified variable</b></p> <p><b>Solve practical problems involving equations</b></p> <p><b>Determine reasonableness of solutions</b></p> | <p><b>Properties of real numbers:</b> commutative, associative, distributive, identity, inverse</p> <p><b>Properties of equality:</b> addition, subtraction, multiplication, division, reflexive, symmetric, transitive, substitution</p> <p>Multiplicative property of zero, zero product property, term, constant, coefficient, variable, like terms, substitution, literal equation, formula, solution, linear equation, and inverse operation, set notation</p> | <p><i>Practical problems involving systems of equations will be taught in the third nine weeks.</i></p>  | 18        |
| <b>8.4</b>    | <b>Compute the percent increase or decrease found in a practical situation</b>   | Percent decrease, percent increase, percent of change   |  | 1         |
| <b>8.5</b>    | <p><b>Identify and describe angle relationships</b></p> <p><b>Use angle pair relationships to determine the measure of unknown angles</b></p>  | Angles: vertical, adjacent, supplementary, complementary, nonadjacent, congruent, acute, right, obtuse; common ray, common vertex, intersecting lines, vertex   | <i>Students should be able to solve a multi-step equation for an unknown value of <math>x</math> that is part of an angle measure written as an algebraic expression.</i>                                | 1         |
| <b>A.5ac</b>  | <p><b>Apply properties to solve multistep linear inequalities algebraically</b></p> <p><b>Graph solutions to inequalities</b></p> <p><b>Determine if an ordered pair is a solution to a linear inequality</b></p> <p><b>Solve practical problems</b></p>   | <p><b>Properties of real numbers:</b> commutative, associative, distributive, identity, inverse</p> <p><b>Properties of inequality:</b> addition, subtraction, multiplication, division, transitive, substitution</p> <p>Inequality, inverse operations, half-plane, set notation</p>   | <p><i>Students should be able to determine and verify algebraic solutions using a graphing utility.</i></p> <p><i>Students should be familiar with the use of set notation to express solutions.</i></p> | 8         |
|               |  |   | Remediation, Review, Assessment  | 10        |
|               |  |   | <b>Total blocks</b>  | <b>45</b> |



| Resources – First Nine Weeks |  |   |  |
|------------------------------|--|---|--|
| SOL                          | Textbook   | Links   | Supplemental Materials   |
| <b>A.1ab</b>                 | HMH<br>37-44, 45-54, 61-66, 67-74, 107-112, 195-202, 203-212, 213-220, 229-238, 245-250  | <a href="#">Khan Academy: Writing Algebraic Expressions</a><br><a href="#">Math Bits Notebook: Algebraic Expressions</a><br><a href="#">Quizlet: Translation</a><br><a href="#">Khan Academy: Substitution and Evaluation</a><br><a href="#">Quizizz: Substitution</a><br><a href="#">Quizlet: Replacement Values</a>   | See MIPs:<br><a href="#">A.1ab - Translate and Evaluate Expressions / PDF Version</a><br><a href="#">A.1ab - Evaluating Expressions Using Algebra Tiles / PDF Version</a>  |
| <b>A.3ab</b>                 | HMH<br>807-814<br><br>Virginia SOL Success<br>504A-50I   | <a href="#">Quizizz: Perfect Squares</a><br><a href="#">Quizizz: Perfect Squares and Cubes</a><br><a href="#">Quia: Perfect Squares and Square Roots (Practice)</a><br><a href="#">Quiz: Perfect Squares and Square Roots (Quiz)</a><br><a href="#">Quizlet: Perfect Squares</a>  | See MIPs:<br><a href="#">A.3a - Simplifying Square Roots of Whole Numbers / PDF Version</a><br><a href="#">A.3a - Simplifying Square Roots of Monomial Expressions / PDF Version</a><br><a href="#">A.3b - Simplify Cube Roots of Integers / PDF Version</a><br><a href="#">A.3c - Simplify Numerical Expressions with Square and Cube Roots / PDF Version</a> |
| <b>A.4ace</b>                | HMH<br>5-10, 45-54, 55-60, 251-258, 387-394, 395-404, 405-412, 413-422, 429-440, 447-454, 751-758, 771-780, 781-790, 791-800, 807-814, 815-826, 827-834, 835-844<br><br>Virginia SOL Success<br>10A-10C, 54A-54B | <a href="#">Math Bits Notebook: Properties of Real Numbers</a><br><a href="#">Khan Academy: Solving Equations</a><br><a href="#">Quizizz: Solving Equations</a><br><a href="#">Quia: 2-player jeopardy game</a><br><a href="#">Quia: Rags to Riches Individual Game</a><br><a href="#">Math Bits Notebook: Solving Equations</a><br><a href="#">Algebra Four game</a><br><a href="#">Quizizz: Literal Equations</a><br><a href="#">Quizlet: Literal Equations</a>   | See MIPs:<br><a href="#">A.4ae - Progressing Through Equations (Word) / PDF Version</a><br><a href="#">A.4c - Literal Equations and Formulas (Word) / PDF Version</a>  |
| <b>8.4</b>                   | Math 8 Textbook<br>VA-2<br>VA-3<br>VA-4  | Percent Applications, consumer applications, percent change:<br><a href="#">Jeopardy Game</a><br><a href="#">Review Game</a><br><a href="#">Review Games</a><br><a href="#">Percent Increase and Decrease Game</a><br><a href="#">Math-Percent, Interest, Discount, Sale Price Challenge Board</a><br><a href="#">Percent Shopping Game</a><br><a href="#">Proportions Online "Quiz"</a><br><a href="#">Penguin Waiter - Tip Game</a><br><a href="#">Sales Tax Online Quiz</a><br><a href="#">Math at the Mall Game</a> | See MIPs:<br><a href="#">8.4 - Consumer Applications – Taxes, Tips, and Simple Interest / PDF Version</a><br><a href="#">8.4 - The Scoop-on-Ice-Cream Planning / PDF Version</a><br><br><a href="#">8.4 - Percent of Increase or Decrease / PDF Version</a><br><br><a href="#">8.4 - Do You Like to Spend Money? / PDF Version</a>                             |
| <b>8.5</b>                   | Math 8 Textbook<br>6-8<br>6-9<br>6-10<br>VA-10   | Desmos Activity: Angle Relationships: Complementary, Supplementary, Vertical, and Adjacent<br><a href="https://teacher.desmos.com/activitybuilder/custom/58b85d195d9f12b705071c03">https://teacher.desmos.com/activitybuilder/custom/58b85d195d9f12b705071c03</a>   | See MIPs:<br><a href="#">8.5 - What Are Your Angles? / PDF Version</a><br><br>IXL Math 8 under "Two-dimensional figures"<br>- Identify complementary, supplementary, vertical, adjacent, and congruent angles  |

|              |   |  |   |
|--------------|---|--|---|
|              |   |  | - Find measures of complementary, supplementary, vertical, and adjacent angles  |
| <b>A.5ac</b> | HMH<br>61-66, 67-74, 259-264<br><br>Virginia SOL Success<br>258A-258C | <a href="#">Khan Academy: Solving Inequalities</a><br><a href="#">Math Bits Notebook: Solving Inequalities</a><br><a href="#">Quizizz: Solving Inequalities</a><br><a href="#">Quizlet: Solving Inequalities</a> | See MIPS:<br><a href="#">A.5ac - Lemonade Stand: Solving Practical Problems Using Linear Inequalities in One Variable (Word) / PDF Version</a><br><a href="#">A.5a - Solving Linear Inequalities in One Variable (Word) / PDF Version</a> |

### Mapping for Instruction - Second Nine Weeks

**SOLs**

**A.6 The student will**

- a) determine the slope of a line when given an equation of the line, the graph of the line, or two points on the line;
- b) write the equation of a line when given the graph of the line, two points on the line, or the slope and a point on the line; and
- c) graph linear equations in two variables.

**A.7 The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including**

- a) determining whether a relation is a function;
- b) domain and range;
- d) intercepts;
- e) values of a function for elements in its domain; and
- f) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs.

*\* Quadratic functions and A.7c will be covered in the 4<sup>th</sup> nine weeks.*

**A.8 The student, given a data set or practical situation, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.**

| SOL             | Instructional Focus   | Vocabulary  | Comments  | Blocks |
|-----------------|---|---|---|--------|
| <b>A.7abdef</b> | <p><b>Analyze and investigate functions (general overview)</b></p> <p><b>Determine whether a relation is a function (from set of ordered pairs, mapping, table, or graph)</b></p> <p><b>Identify domain, range, zeros, and intercepts</b></p> <p><b>Determine <math>f(x)</math> for a value of x in domain</b></p> <p><b>Represent relations and functions using verbal descriptions, tables, equations, and graphs</b></p> <p><b>Given one representation, students should represent the relation in another form</b></p> <p><b>Calculator use</b></p> | <p>Relation, function, function family, linear, transformation, domain, range, input, output, independent variable, dependent variable, function notation <math>f(x)</math>, x-intercept, y-intercept, set notation, Symbols: Example of set notation – <math>\{y : y &gt; 3\}</math><br/>Empty set or null set – <math>\emptyset, \{ \}</math></p> | <p><i>The terms <b>solutions</b>, <b>roots</b>, and <b>zeros</b> (A.7c) will be taught explicitly in the 4<sup>th</sup> nine-weeks, but teachers can consider teaching them in the context of linear functions.</i></p> | 12     |

|                      |  |   |   |                  |
|----------------------|--|---|---|------------------|
| <p><b>A.6abc</b></p> | <p><b>Determine slope:</b></p> <ul style="list-style-type: none"> <li>- <b>Given equation of line</b></li> <li>- <b>Given two points on a line</b></li> <li>- <b>Given the graph of a line</b></li> </ul> <p><b>Recognize and describe positive, negative, zero, and undefined slope</b></p> <p><b>Write equation of a line:</b></p> <ul style="list-style-type: none"> <li>- <b>Given the graph of a line</b></li> <li>- <b>Given two points on the line</b></li> <li>- <b>Given the slope and a point</b></li> <li>- <b>That is vertical</b></li> <li>- <b>That is horizontal</b></li> <li>- <b>That is parallel or perpendicular to a given line through a given point</b></li> </ul> <p><b>Graph a linear equation that arises from a practical situation</b></p> <p><b>Describe transformations defined by changes in slope or y-intercept (dilations, reflections, and translations)</b></p> | <p>Independent variable, dependent variable, slope, positive slope, negative slope, zero slope, undefined slope, rate of change, linear equation, linear function, standard form, slope-intercept form, point-slope form, x-intercept, y-intercept, vertical line, horizontal line, transformation of parent linear function (dilation, reflection, translation), parallel lines, perpendicular lines</p> | <p><i>Students should be able to write the equations of lines in standard form, slope-intercept form, and point-slope form.</i></p>                     | <p>16</p>        |
| <p><b>A.8</b></p>    | <p><b>Direct and inverse variation;</b></p> <ul style="list-style-type: none"> <li>- <b>Determine if a direct variation exists</b></li> <li>- <b>Determine if an inverse variation exists</b></li> <li>- <b>Write an equation for a direct variation</b></li> <li>- <b>Write an equation for an inverse variation</b></li> <li>- <b>Graph an equation representing a direct variation</b></li> </ul>   | <p>Direct variation, inverse variation, constant of proportionality, constant of variation, directly proportional, origin</p>   | <p><i>Teachers will need to use supplemental resources for this topic.</i></p> <p><i>Students do not need to graph inverse variation equations.</i></p> | <p>5</p>         |
|                      |  |   | <p>Remediation, Review, Assessment</p>  | <p>12</p>        |
|                      |  |   | <p><b>Total blocks</b></p>  | <p><b>45</b></p> |

| Resources – Second Nine Weeks |  |   |  |
|-------------------------------|--|---|--|
| SOL                           | Textbook   | Links   | Supplemental Materials   |
| <b>A.7abdef</b>               | <p>HMH<br/>97-106, 107-112, 113-120, 165-172, 173-178, 179-188, 195-202, 203-212, 213-220, 221-228, 229-238, 245-250, 251-258, 697-708, 709-716, 717-728, 735-744, 745-750</p> <p>Virginia SOL Success<br/>120A-120C</p> | <p>Identifying functions<br/><a href="https://quizizz.com/admin/quiz/57e9e59af3e215a43b64bc09">https://quizizz.com/admin/quiz/57e9e59af3e215a43b64bc09</a></p> <p>Desmos Activity: Explore Domain and Range of Graphs<br/><a href="https://teacher.desmos.com/activitybuilder/custom/5953f7bc359502399f3cd312">https://teacher.desmos.com/activitybuilder/custom/5953f7bc359502399f3cd312</a></p> <p>Domain and range <a href="https://www.quia.com/cb/79585.html">https://www.quia.com/cb/79585.html</a></p> <p>Evaluate functions <a href="https://quizlet.com/188872547/function-notation-practice-flash-cards/">https://quizlet.com/188872547/function-notation-practice-flash-cards/</a></p> <p>Describe transformations<br/><a href="https://teacher.desmos.com/activitybuilder/custom/5beeffea3d231b0c5a36db5f">https://teacher.desmos.com/activitybuilder/custom/5beeffea3d231b0c5a36db5f</a>Linear Transformations Practice Activity<br/><a href="https://drive.google.com/file/d/1DMCcSeQxkynj5w6xWXTThDCbYG_vuQXKr/preview">https://drive.google.com/file/d/1DMCcSeQxkynj5w6xWXTThDCbYG_vuQXKr/preview</a></p> | <p>See MIPs:<br/><a href="#">A.7abef - Functions 1: Investigating Relations and Functions (Word) / PDF Version</a><br/><a href="#">A.7aef- Square Patios (Word) / PDF Version</a><br/><a href="#">A.7bcd - Functions 2: Exploring Quadratic Functions (Word) / PDF Version</a><br/><a href="#">A.7cd - Quadratic Connections (Word) / PDF Version</a><br/><a href="#">A.7cd - Solving Linear Equations Using Functions with Desmos (Word) / PDF Version</a></p> <p>Multiple representation of functions<br/><a href="http://www.esc4.net/users/0236/camtr4camtr_linear_representations_ds.pdf">http://www.esc4.net/users/0236/camtr4camtr_linear_representations_ds.pdf</a></p>  |
| <b>A.6abc</b>                 | <p>HMH<br/>113-120, 165-172, 173-178, 179-188, 195-202, 203-212, 213-220, 221-228, 229-238, 245-250</p> <p>Virginia SOL Success<br/>212A-212C, 220A-220C</p>   | <p>Slope<br/>Desmos Activity: Put the Point on the Line<br/><a href="https://teacher.desmos.com/activitybuilder/custom/57f3dd9dcf3c849008d81007">https://teacher.desmos.com/activitybuilder/custom/57f3dd9dcf3c849008d81007</a></p> <p><a href="https://mathbitsnotebook.com/Algebra1/LinearEquations/LERefreshSlope.html">https://mathbitsnotebook.com/Algebra1/LinearEquations/LERefreshSlope.html</a></p> <p><a href="https://www.geogebra.org/m/CCqSxRkK">https://www.geogebra.org/m/CCqSxRkK</a></p> <p><a href="http://www.crctlessons.com/slope-game.html">http://www.crctlessons.com/slope-game.html</a></p> <p>Slope-intercept form<br/>Desmos Activity: Slope-Intercept Stars<br/><a href="https://teacher.desmos.com/activitybuilder/custom/5831bb9627e495f1053a113e">https://teacher.desmos.com/activitybuilder/custom/5831bb9627e495f1053a113e</a></p> <p>Desmos activity: Writing the Equation of a Line<br/><a href="https://teacher.desmos.com/activitybuilder/custom/56097556686358ae07300045">https://teacher.desmos.com/activitybuilder/custom/56097556686358ae07300045</a></p>                        | <p>See MIPs:<br/><a href="#">A.6a - Slippery Slope (Word) / PDF Version</a><br/><a href="#">A.6abc - Slope-2-Slope with Desmos (Word) / PDF Version</a><br/><a href="#">A.6ab - Writing Equations of Lines (Word) / PDF Version</a><br/><a href="#">A.6c - Rate of Change of Practical Situations (Word) / PDF Version</a><br/><a href="#">A.6c - Transformation Investigation (Word) / PDF Version</a></p> <p>Linear equation card sort<br/><a href="https://mrshclassblog.wikispaces.com/file/view/linear+sort+and+match+game.pdf">https://mrshclassblog.wikispaces.com/file/view/linear+sort+and+match+game.pdf</a></p> <p>Stained Glass Graphing project<br/><a href="http://staff.tamhigh.org/wetzel/Stained-Glass-Project%20project.pdf">http://staff.tamhigh.org/wetzel/Stained-Glass-Project%20project.pdf</a></p> |

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|------------|-----------------------------------|---|---|
|            |                                   | <p><a href="https://www.geogebra.org/m/Evp3A9DK">https://www.geogebra.org/m/Evp3A9DK</a></p> <p><a href="http://www.math.com/school/subject2/lessons/S2U4L2GL.html">http://www.math.com/school/subject2/lessons/S2U4L2GL.html</a></p> <p><a href="https://books.quia.com/rr/379720.html">https://books.quia.com/rr/379720.html</a></p> <p><a href="https://www.geogebra.org/m/fnY6ptWQ">https://www.geogebra.org/m/fnY6ptWQ</a></p> <p><a href="http://www.math.com/school/subject2/lessons/S2U4L3GL.html">http://www.math.com/school/subject2/lessons/S2U4L3GL.html</a></p> <p><a href="https://www.geogebra.org/m/Spq9uhju">https://www.geogebra.org/m/Spq9uhju</a></p> <p><a href="https://www.varsitytutors.com/assets/vt-hotmath-legacy/hotmath_help/games/kp/kp_hotmath_nosound.swf">https://www.varsitytutors.com/assets/vt-hotmath-legacy/hotmath_help/games/kp/kp_hotmath_nosound.swf</a></p> <p><a href="https://www.thatquiz.org/tg/practice.html?algebra">https://www.thatquiz.org/tg/practice.html?algebra</a></p> |   |
|            |                                   | Point-slope<br><a href="https://www.geogebra.org/m/qknBFn8Q">https://www.geogebra.org/m/qknBFn8Q</a>  |   |
|            |                                   | Standard form<br><a href="https://www.quia.com/rr/49074.html">https://www.quia.com/rr/49074.html</a>  |   |
|            |                                   | Parallel/perpendicular lines<br><br>Desmos Activity: Parallel and Perpendicular Lines<br><a href="https://teacher.desmos.com/activitybuilder/custom/560199005b5be23c0628ebcf">https://teacher.desmos.com/activitybuilder/custom/560199005b5be23c0628ebcf</a><br><br><a href="https://www.geogebra.org/m/waXDEZEm">https://www.geogebra.org/m/waXDEZEm</a><br><br><a href="https://www.quia.com/ba/109264.html">https://www.quia.com/ba/109264.html</a>  | Parallel, perpendicular or neither activity<br><a href="https://learning.arpdc.ab.ca/pluginfile.php/24966/mod_page/content/30/Parallel_Perpendicular_Neither_Activity.pdf">https://learning.arpdc.ab.ca/pluginfile.php/24966/mod_page/content/30/Parallel_Perpendicular_Neither_Activity.pdf</a>  |
| <b>A.8</b> | Virginia SOL Success<br>374A-374F | Desmos Activity: Direct Variation<br><a href="https://teacher.desmos.com/activitybuilder/custom/5a71ff07c0c1170a94ef611f">https://teacher.desmos.com/activitybuilder/custom/5a71ff07c0c1170a94ef611f</a><br><br>Thatquiz- direct and inverse variation<br><a href="https://www.thatquiz.org/tg/practicetest?5xjblmy190">https://www.thatquiz.org/tg/practicetest?5xjblmy190</a>   | See MIPS:<br><a href="#">A.8 - Direct Variation (Word) / PDF Version</a><br><a href="#">A.8 - Inverse Variation (Word) / PDF Version</a><br><br><a href="https://www.teacherspayteachers.com/Product/Direct-Inverse-Variation-Equations-Card-Sort-461450">https://www.teacherspayteachers.com/Product/Direct-Inverse-Variation-Equations-Card-Sort-461450</a> (free resource) |

**Mapping for Instruction - Third Nine Weeks**

**SOLs**

- A.2 The student will perform operations on polynomials, including**
  - a) applying the laws of exponents to perform operations on expressions;
  - b) adding, subtracting, multiplying, and dividing polynomials; and
- A.3 The student will simplify**
  - a) square roots of whole numbers and monomial algebraic expressions;
  - b) cube roots of integers; and
  - c) numerical expressions containing square or cube roots.
- A. 4 The student will solve**
  - d) systems of two linear equations in two variables algebraically and graphically; and
  - e) practical problems involving equations and systems of equations.
- A.5 The student will**
  - b) represent the solution of linear inequalities in two variables graphically;
  - c) solve practical problems involving inequalities; and
  - d) represent the solution to a system of inequalities graphically.

**8.10 The student will solve area and perimeter problems, including practical problems, involving composite plane figures.**

| SOL           | Instructional Focus  | Vocabulary  | Comments  | Blocks |
|---------------|--|---|---|--------|
| <b>A.4de</b>  | <p><b>Solve systems of linear equations algebraically and graphically</b></p> <ul style="list-style-type: none"> <li>- Using substitution</li> <li>- Using elimination</li> <li>- Identifying the point of intersection on a graph</li> <li>- Using a graphing calculator</li> </ul> <p><b>Determine if a system of linear equations has one, infinite, or no solutions</b></p> <p><b>Practical problems</b></p> <p><b>Determine reasonableness of solutions</b></p> | System of equations, solution, intersecting lines, same line, parallel lines  | <i>Students should be familiar with the use of set notation to express solutions.</i> | 5      |
| <b>A.5bcd</b> | <p><b>Graph solution to two variable linear inequalities</b></p> <p><b>Solve a system of linear inequalities graphically</b></p> <p><b>Determine if an ordered pair is a solution to a system of inequalities</b></p> <p><b>Use a graphing calculator to verify solutions</b></p>  | Linear inequality, solution of an inequality, system of linear inequalities, solution of a system of linear inequalities, intervals, set notation, boundary line, half-plane, properties of inequalities (see first nine weeks) |   | 4      |

|               |   |   |  |           |
|---------------|---|---|--|-----------|
| <b>A.2a</b>   | <b>Use the laws of exponents to simplify:</b><br>- <b>Monomial expressions</b><br>- <b>Ratios of monomial expressions (in which exponents are integers)</b>   | Monomial, ratio, negative exponent, zero exponent, product of powers, power of a power, power of a product  |  | 6         |
| <b>A.3abc</b> | <b>Simplify square roots</b><br><b>Express principal square root of a monomial algebraic expression (where variables are assumed to have positive value) in simplest form</b><br><b>Simplify cube roots</b><br><b>Simplify expressions containing square or cube roots</b><br><b>Add, subtract, and multiply two monomial radical expressions</b> | Square root, simplest form, cube root, radical expression, principal square root<br>Symbols: square root - $\sqrt{\quad}$ ; cube root - $\sqrt[3]{\quad}$ | <i>Perfect squares and perfect cubes were taught in the first nine weeks. This lesson highlights simplifying radicals into simplest radical form. This includes numbers and variables.</i>                     | 6         |
| <b>A.2b</b>   | <b>Polynomials:</b><br>- <b>Add, subtract, multiply polynomials</b><br>- <b>Model operations with polynomials using concrete objects, pictorial representations, and symbols</b>  | Polynomial, degree of a polynomial, prime polynomial, factorization, leading coefficient, like terms, GCF   | <i>Long or synthetic division is <u>not</u> required but students may benefit from experience with these methods.</i>  | 10        |
| <b>8.10</b>   | <b>Solve area and perimeter problems, including practical problems, involving composite plane figures.</b>  | Perimeter, area, subdivide  | <i>Subdivide plane figures into triangles, rectangles, squares, trapezoids, parallelograms, and semicircles.<br/>Reinforce SOL A.2abc skills by using polygons with algebraic expressions for side lengths</i> | 2         |
|               |   |   | Remediation, Review, Assessment  | 12        |
|               |   |   | <b>Total blocks</b>  | <b>45</b> |



| Resources – Third Nine Weeks |  |  |  |
|------------------------------|--|--|--|
| SOL                          | Textbook   | Links  | Supplemental Materials   |
| <b>A.4de</b>                 | HMH<br>5-10, 45-54, 55-60, 251-258, 387-394, 395-404, 405-412, 413-422, 429-440, 447-454, 751-758, 771-780, 781-790, 791-800, 807-814, 815-826, 827-834, 835-844<br><br>Virginia SOL Success<br>10A-10C, 54A-54B | Solve by graphing<br><br>Desmos Activity: Systems of Two Linear Equations<br><a href="https://teacher.desmos.com/activitybuilder/custom/5807d7306ef115e7053a142a">https://teacher.desmos.com/activitybuilder/custom/5807d7306ef115e7053a142a</a><br><br>Desmos Activity: Solutions to Systems of Linear Equations<br><a href="https://teacher.desmos.com/activitybuilder/custom/564a325345d9115d06270607">https://teacher.desmos.com/activitybuilder/custom/564a325345d9115d06270607</a>   | See MIPs:<br><a href="#">A.4de - Road Trip: Applying Systems of Linear Equations (Word) / PDF Version</a><br><a href="#">A.4de - Spring Fling Carnival: Applying Systems of Linear Equations (Word) /PDF Version</a>   |
|                              |  | Solve by substitution<br><br>Solve systems by substitution<br><a href="https://www.quia.com/ba/119379.html">https://www.quia.com/ba/119379.html</a>  |  |
|                              |  | Solve by elimination<br><br>Solve systems by elimination <a href="https://www.quia.com/rr/514985.html">https://www.quia.com/rr/514985.html</a>   |  |
|                              |  | Solve system using any method<br><a href="http://www.crctlessons.com/systems-of-equations-game.html">http://www.crctlessons.com/systems-of-equations-game.html</a>   |  |
| <b>A.5bd</b>                 | HMH<br>259-264, 441-446, 447-454   | Desmos Activity: Inequalities in Two Variables<br><a href="https://teacher.desmos.com/activitybuilder/custom/587ce3e3a2374e9f05f8f47e">https://teacher.desmos.com/activitybuilder/custom/587ce3e3a2374e9f05f8f47e</a><br><br>Desmos Activity: Graphing Linear Inequalities<br><a href="https://teacher.desmos.com/activitybuilder/custom/56d76f128fa0cb4106af57cc">https://teacher.desmos.com/activitybuilder/custom/56d76f128fa0cb4106af57cc</a><br><br>Desmos Activity: Systems of Linear Inequalities<br><a href="https://teacher.desmos.com/activitybuilder/custom/5667249eaba26aa2125b60d2">https://teacher.desmos.com/activitybuilder/custom/5667249eaba26aa2125b60d2</a><br><br><a href="https://www.thatquiz.org/tq-0/math/algebra/">https://www.thatquiz.org/tq-0/math/algebra/</a> | See MIPs:<br><a href="#">A.5b - Represent the Solution of a Linear Inequality in Two Variables Graphically Scavenger Hunt with Desmos (Word) / PDF Version</a><br><a href="#">A.5d - Graphing Systems of Linear Inequalities in Two Variables with Desmos (Word) / PDF Version</a> |
|                              |  | <a href="https://www.mathsisfun.com/algebra/exponent-laws.html">https://www.mathsisfun.com/algebra/exponent-laws.html</a><br><br><a href="http://www.coolmath.com/prealgebra/13-intro-to-exponents/05-exponent-rules-rule-4-01-48">http://www.coolmath.com/prealgebra/13-intro-to-exponents/05-exponent-rules-rule-4-01-48</a>   |  |
|                              |  |  |  |
| <b>A.2a</b>                  | HMH<br>505-510, 511-520, 663-668, 669-676, 677-684<br><br>Virginia SOL Success<br>501A-501D, 510A-510D   | <a href="https://www.mathsisfun.com/algebra/exponent-laws.html">https://www.mathsisfun.com/algebra/exponent-laws.html</a><br><br><a href="http://www.coolmath.com/prealgebra/13-intro-to-exponents/05-exponent-rules-rule-4-01-48">http://www.coolmath.com/prealgebra/13-intro-to-exponents/05-exponent-rules-rule-4-01-48</a>   | See MIPs:<br><a href="#">A.2a - Laws of Exponents (Word) / PDF Version</a><br><a href="#">A.2a - Operations with Expressions Written in Scientific Notation (Word) / PDF Version</a>   |

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|---------------|--|--|---|
| <b>A.3abc</b> | <p>HMH<br/>807-814</p> <p>Virginia SOL Success<br/>504A-504E<br/>504F-504I</p>   | <p><a href="https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals/alg1-simplify-square-roots/e/simplifying_radicals">https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals/alg1-simplify-square-roots/e/simplifying_radicals</a></p> <p>Quia matching – simplifying expressions<br/><a href="https://www.quia.com/mc/678599.html">https://www.quia.com/mc/678599.html</a></p>  | <p>See MIPs:</p> <p><a href="#">A.3a - Simplifying Square Roots of Whole Numbers (Word) / PDF Version</a></p> <p><a href="#">A.3a - Simplifying Square Roots of Monomial Expressions (Word) / PDF Version</a></p> <p><a href="#">A.3b - Simplify Cube Roots of Integers (Word) / PDF Version</a></p> <p><a href="#">A.3c - Simplify Numerical Expressions with Square and Cube Roots (Word) / PDF Version</a></p> |
| <b>A.2bc</b>  | <p>HMH<br/>641-648, 649-656, 663-668, 669-676, 677-684, 771-780, 781-790, 791-800</p> <p>Virginia SOL Success<br/>684A-648C<br/>780A-780B, 800A-800B</p> | <p>Desmos Activity: Area: Multiplying Polynomials<br/><a href="https://teacher.desmos.com/activitybuilder/custom/5a3f21076f1f053025b920d3#preview/94840de2-2960-4d6b-82a8-32c520a60429">https://teacher.desmos.com/activitybuilder/custom/5a3f21076f1f053025b920d3#preview/94840de2-2960-4d6b-82a8-32c520a60429</a></p> <p><a href="https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions">https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions</a></p> <p>Factoring battleship <a href="https://www.quia.com/ba/106429.html">https://www.quia.com/ba/106429.html</a></p> | <p>See MIPs:</p> <p><a href="#">A.2b - Dividing Polynomials Using Algebra Tiles (Word) / PDF Version</a></p> <p><a href="#">A.2b - Multiplying Polynomials Using Algebra Tiles (Word) / PDF Version</a></p> <p><a href="#">A.2b - Adding and Subtracting Polynomials Using Algebra Tiles (Word) / PDF Version</a></p> <p><a href="#">A.2c - Factoring Polynomials / PDF Version</a></p>                           |
| <b>8.10</b>   | <p>Lesson<br/>VA-11</p>  | <p><a href="#">Math Interactives: Exploring composite figures</a></p> <p><a href="#">Area and perimeter of composite shapes stations</a></p> <p><a href="#">VDOE MIP for 8.10 composite figures: area and perimeter</a></p>  | <p>See MIPs:</p> <p><a href="#">8.10 - Composite Figures: Area and Perimeter (Word) / PDF Version</a></p> <p><i>Punchline 12.6 (combines polynomials operations with the concept of area and perimeter)</i></p> <p><i>PollyNomial's House (in Algebra I Performance task document)</i></p>  |

**Mapping for Instruction - Fourth Nine Weeks**

**SOLs**

- A.2 The student will perform operations on polynomials, including**
  - b) adding, subtracting, multiplying, and dividing polynomials; and
  - c) factoring completely first- and second-degree binomials and trinomials in one variable.
- A.4 The student will solve**
  - b) quadratic equations in one variable algebraically;
- A.7 The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including**
  - b) domain and range;
  - c) zeros;
  - d) intercepts;
  - e) values of a function for elements in its domain; and
  - f) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs.
- A.9 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems, using mathematical models of linear and quadratic functions.**
- 8.9 The student will**
  - b) apply the Pythagorean Theorem
- 8.12 The student will**
  - a) represent numerical data in boxplots;
  - b) make observations and inferences about data represented in boxplots; and
  - c) compare and analyze two data sets using boxplots.

| SOL      | Instructional Focus   | Vocabulary   | Comments  | Blocks |
|----------|---|--|---|--------|
| A.2bc    | <b>Polynomials:</b> <ul style="list-style-type: none"> <li>- divide polynomials</li> <li>- Completely factor first- and second-degree binomials and trinomials</li> <li>- Model operations with polynomials using concrete objects, pictorial representations, and symbols</li> <li>- Use a graphing calculator to factor and verify factorizations of polynomials</li> </ul> | Polynomial, degree of a polynomial, prime polynomial, factorization, leading coefficient, like terms, GCF  | <i>Long or synthetic division is <u>not</u> required but students may benefit from experience with these methods.</i>                       | 7      |
| A.7bcdef | <b>Analyze and investigate quadratic functions</b><br><b>Identify domain, range, zeros, and intercepts</b><br><b>Confirm factors using x intercepts</b><br><b>Determine <math>f(x)</math> for a value of x</b><br><b>Represent relations and functions using verbal descriptions, tables, equations, and graphs</b>   | Quadratic function, domain, range, zero of a function, solution, root, function notation $f(x)$ , x-intercept, y-intercept, set notation, empty set, null set, $\emptyset$ | <i>Many function vocabulary terms were introduced during the second nine-weeks; review them here in the context of quadratic functions.</i> | 2      |

|                |  |  |  |           |
|----------------|--|--|--|-----------|
|                | <b>Investigate and analyze functions with a graphing calculator</b>  |  |  |           |
| <b>A.4b</b>    | <b>Solve quadratic equations algebraically:</b><br>- factoring<br>- quadratic formula  | Quadratic equation, quadratic formula, solution, rational, irrational, properties of equality, factoring   | <i>Solutions may be rational or irrational.</i>              | 6         |
| <b>8.9b</b>    | <b>Apply Pythagorean Theorem</b><br>- Determine if a triangle is a right triangle<br>- Determine the measure of a side given two sides in a right triangle<br>- Solve practical problems using Pythagorean Theorem   | Pythagorean Theorem  |  | 1         |
| <b>A.9</b>     | <b>Determine a curve of best fit with a graphing calculator</b><br><br><b>Make predictions using data, scatter plots, or curve of best fit</b><br><br><b>Solve practical problems</b><br><br><b>Evaluate the reasonableness of the model of a practical situations</b> | Scatterplot, positive correlation, negative correlation, no correlation, transformational graphing, linear, quadratic  | <i>Include both linear and quadratic curves of best fit.</i> | 6         |
|                | <b>SOL Review</b>  |  |  | 12        |
|                | <b>Rationalizing the Denominator (Enrichment)</b>  |  | <i>Recommend this lesson after the Algebra I SOL test.</i>   | 1         |
| <b>8.12abc</b> | <b>Boxplots (box-and-whisker plot):</b><br>- Display data<br>- Make observations and inferences<br>- Compare data of 2 boxplots  | boxplot (box-and-whisker plot), median, range, lower extreme (minimum), upper extreme (maximum), lower quartile, upper quartile, quartile, interquartile range (IQR), five number summary, inference | <i>Recommend this lesson after the Algebra I SOL test.</i>   | 1         |
|                |  |  | Remediation, Review, Assessment                              | 9         |
|                |  |  | <b>Total blocks</b>  | <b>45</b> |

| <b>Resources – Fourth Nine Weeks</b> |  |   |   |
|--------------------------------------|--|---|---|
| <b>SOL</b>                           | <b>Textbook</b>  | <b>Links</b>  | <b>Supplemental Materials</b>   |
| <b>A.2bc</b>                         | HMH<br>641-648, 649-656, 663-668, 669-676, 677-684, 771-780, 781-790, 791-800<br><br>Virginia SOL Success<br>684A-648C<br>780A-780B<br>800A-800B   | <a href="https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions">https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions</a><br><br>Factoring battleship <a href="https://www.quia.com/ba/106429.html">https://www.quia.com/ba/106429.html</a>   | See MIPs:<br><a href="#">A.2b - Dividing Polynomials Using Algebra Tiles (Word) / PDF Version</a><br><a href="#">A.2b - Multiplying Polynomials Using Algebra Tiles (Word) / PDF Version</a><br><a href="#">A.2b - Adding and Subtracting Polynomials Using Algebra Tiles (Word) / PDF Version</a><br><a href="#">A.2c - Factoring Polynomials / PDF Version</a>  |
| <b>A.7bcdef</b>                      | HMH<br>107-112, 113-120, 165-172, 173-178, 179-188, 195-202, 203-212, 213-220, 221-228, 229-238, 245-250, 251-258, 697-708, 709-716, 717-728, 735-744, 745-750, 751-758<br><br>Virginia SOL Success<br>120A-120C |   | See MIPs:<br><a href="#">A.7abef - Functions 1: Investigating Relations and Functions (Word) / PDF Version</a><br><a href="#">A.7aef- Square Patios (Word) / PDF Version</a><br><a href="#">A.7bcd - Functions 2: Exploring Quadratic Functions (Word) / PDF Version</a><br><a href="#">A.7cd - Quadratic Connections (Word) / PDF Version</a><br><a href="#">A.7cd - Solving Linear Equations Using Functions with Desmos (Word) / PDF Version</a> |
| <b>A.4b</b>                          | HMH<br>751-758, 771-780, 781-790, 791-800, 807-814, 815-826, 827-834, 835-844  | Solve quadratic equations battleship <a href="https://www.quia.com/ba/22461.html">https://www.quia.com/ba/22461.html</a><br><br>Algebra Four game <a href="http://www.shodor.org/interactivate/activities/AlgebraFour/">http://www.shodor.org/interactivate/activities/AlgebraFour/</a><br><br>Rags to riches <a href="https://www.quia.com/rr/36611.html">https://www.quia.com/rr/36611.html</a> | See MIPs:<br><a href="#">A.4be - Solving Quadratic Equations by Factoring (Word) / PDF Version</a><br><a href="#">A.4be - Solving Quadratic Equations Using Square Roots and the Quadratic Formula (Word) / PDF Version</a>   |
| <b>8.9b</b>                          | Lesson<br>7-1<br>7-2<br>7-3<br>7-4   |   | See MIPs:<br><a href="#">8.9 - Pythagorean Theorem / PDF Version</a><br><br>IXL Math 8 under "Pythagorean theorem" - Pythagorean theorem: find the length of the hypotenuse<br>- Pythagorean theorem: find the missing leg length<br>- Pythagorean theorem: word problems<br>- Converse of the Pythagorean theorem: is it a right triangle?<br><br>Roanoke County Math 8 Performance Task: Pythagorean Theorem                                      |

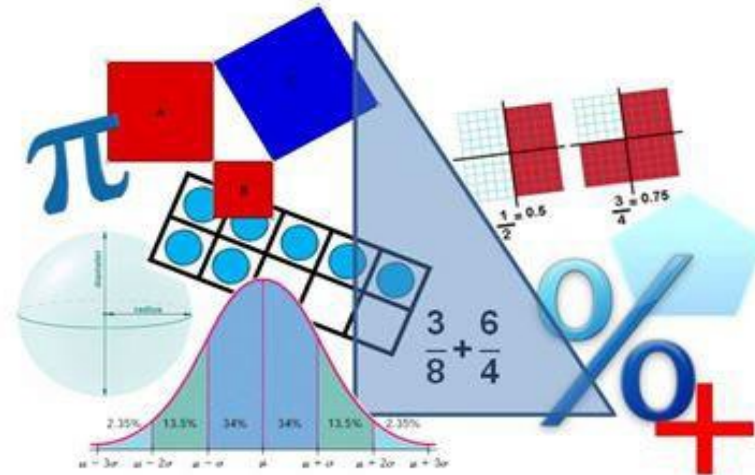
|                |                                  |   |   |
|----------------|----------------------------------|---|---|
|                |                                  |   | <p>Kahoot titled "Pythagorean Theorem" by aktravis (10 questions)</p> <p><a href="#">Pythagorean Theorem fence activity</a></p>   |
| <b>A.9</b>     | HMH<br>363-374, 859-870, 871-886 | <p>Desmos Activity: Will It Hit the Hoop?<br/> <a href="https://teacher.desmos.com/activitybuilder/custom/56e0b6af0133822106a0bed1">https://teacher.desmos.com/activitybuilder/custom/56e0b6af0133822106a0bed1</a></p>  | <p>See MIPs:<br/> <a href="#">A.9 - Curve of Best Fit 1 with Desmos (Word) / PDF Version</a><br/> <a href="#">A.9 - Curve of Best Fit 2 (Word) / PDF Version</a></p>  |
| <b>8.12abc</b> | Lesson<br>VA-7                   | <p>Data Displays Box-and-Whisker plots:<br/> <a href="#">Khan Academy Constructing a Box-and-Whisker Plot</a></p> <p><a href="#">Class Flow: Box-and-Whisker</a></p> <p><a href="#">Box-and-Whisker with Examples</a></p> <p><a href="#">MashUp Math Video: Intro to Box-and-Whisker Plots</a><br/> <a href="#">Shmoop Video: Box-and-Whisker Plots</a></p> <p><a href="#">Braining Camp Lesson Box-and-Whisker Plots</a></p> <p>Desmos Activity: Statistics Box Plots<br/> <a href="https://teacher.desmos.com/activitybuilder/custom/5732602adffa5c1606a6b673">https://teacher.desmos.com/activitybuilder/custom/5732602adffa5c1606a6b673</a></p> | <p>See MIPs:<br/> <a href="#">8.12 - Representing Data Using Boxplots / PDF Version</a></p> <p>IXL Math 8 under "Data and Graphs"<br/>             - Interpret box-and-whisker plots</p> <p><a href="#">LearnZillion: Create a Box Plot 1</a><br/> <a href="#">LearnZillion: Create a Box Plot 2</a></p> <p><a href="#">Illuminations: Using NBA Statistics for Box and Whisker Plots</a></p> <p><a href="#">Free TPT: Creating a Box-and-Whisker Plot Step-by-Step</a></p> <p><a href="#">Box-and-Whisker Practice</a></p> |

# Mathematics

## 2016 Standards of Learning

### Algebra I

### Curriculum Framework



Board of Education  
Commonwealth of Virginia

