**Curriculum Coverage in Mathematics for the 2017-2018 School Year as Outlined by TNStandards**

[The Standards for Mathematical Practices](http://tn.gov/assets/entities/education/attachments/std_math_standards_mathematical_practice.pdf)

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| **MP1. Make sense of problems and persevere in solving them.** | **MP2. Reason abstractly and quantitatively.** | **MP3. Construct viable arguments and critique the reasoning of others.** | **MP4. Model with mathematics.** |
| **MP5. Use appropriate tools strategically.** | **MP6. Attend to precision.** | **MP7. Look for and make use of structure.** | **MP8. Look for and express regularity in repeated reasoning.** |

[Tennessee Mathematics Standards – Algebra 1](http://www.tn.gov/assets/entities/education/attachments/std_math_algebra_I.pdf)

[Tennessee Mathematics Blueprints – Algebra 1](http://www.tn.gov/assets/entities/education/attachments/tnready_blueprints_math_traditional_grade_9-12.pdf)

\*\*Underlined TNStandards denote “Major Work of the Grade”

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| **TNStandards** | **Learning Outcomes** | **Lessons** |
| **Algebra Basics**  Allow 1 week for instruction, review, & assessment | | |
| (Dropped standard – review if necessary) | I can describe and/or order a given set of real numbers including both rational and irrational numbers | Real Numbers System |
| **A1.A.SSE.A.1** Interpret expressions that represent a quantity in terms of its context.  **A1.A.SSE.A.2** Use the structure of an expression to identify ways to rewrite it. | I can recognize the properties of equality and identity.  I can recognize the Commutative and Associative Properties. | Properties of Real Numbers |
| **A1.A.SSE.A.1** Interpret expressions that represent a quantity in terms of its context.  **A1.A.SSE.A.2** Use the structure of an expression to identify ways to rewrite it. | I can rewrite and simplify expressions by combining like terms. | Combining Like Terms |
| **A1.A.SSE.A.1** Interpret expressions that represent a quantity in terms of its context.  **A1.A.SSE.A.2** Use the structure of an expression to identify ways to rewrite it. | I can use the Distributive Property to evaluate and simplify expressions. | The Distributive Property |
| **A1.A.SSE.A.1** Interpret expressions that represent a quantity in terms of its context.  **A1.A.SSE.A.2** Use the structure of an expression to identify ways to rewrite it. | I can evaluate numerical and algebraic expressions by using the order of operations. | Order of Operations |
| **A1.A.SSE.A.1** Interpret expressions that represent a quantity in terms of its context.  **A1.A.SSE.A.2** Use the structure of an expression to identify ways to rewrite it. | I can write verbal expressions for algebraic expressions and algebraic expressions for verbal expressions. | Evaluating and Simplifying Expressions |
| **Statistics**  Allow 1 week for instruction, review, & assessment | | |
| **A1.S.ID.A.1** Represent single or multiple data set with dot plots, histograms, stem plots, (stem and leaf), and box plots.  **A1.S.ID.A.2** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.  **A1.S.ID.A.3** Interpret differences in shape, center, and spread the context of the data sets, accounting for possible effects of extreme data points (outliers). | I can understand and apply different statistics vocabulary. | Statistics Overview   * Mean, median, mode, lower extreme, upper extreme, lower quartile, upper quartile, range, interquartile, outliers * Standard deviation |
| **A1.S.ID.A.1** Represent single or multiple data set with dot plots, histograms, stem plots, (stem and leaf), and box plots.  **A1.S.ID.A.2** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or m0re different data sets.  **A1.S.ID.A.3** Interpret differences in shape, center, and spread the context of the data sets, accounting for possible effects of extreme data points (outliers). | I can use multiple data sets to interpret and represent information. | Data sets   * Box-and-whisker plots, stem-and-leaf plots, histograms |
| **Multi-Step Equations and Inequalities**  Allow 3 weeks for instruction, review, & assessment | | |
| **A1.A.CED.A.1** Create equations and inequalities in one variable and use them to solve problems.  **A1.A.REI.A.1** Explain each step in solving an equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters | I can solve equations by using addition, subtraction, multiplication, and division.  I can solve equations involving more than one operation and equations involving consecutive integers. | Two-step & multi-step equations |
| **A1.A.CED.A.1** Create equations and inequalities in one variable and use them to solve problems.  **A1.A.REI.A.1** Explain each step in solving an equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters | I can solve equations with the variable on each side and equations involving grouping symbols. | Solving equations with variables on both sides  Infinite and No solution equations |
| **A1.A.REI.A.1** Explain each step in solving an equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters  **A1.N.Q.A.1** Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.  **A1.N.Q.A.2** Identify, interpret, and justify appropriate quantities for the purpose of descriptive modeling.  **A1.N.Q.A.3** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. | I can compare ratios and solve Algebraic proportions. | Solving Algebraic Proportions |
| **A1.A.CED.A.1** Create equations and inequalities in one variable and use them to solve problems.  **A1.A.REI.A.1** Explain each step in solving an equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters | I can evaluate absolute value expression and solve absolute equations. | Absolute Value Equations |
| **A1.A.CED.A.4** Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters  **A1.N.Q.A.1** Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.  **A1.N.Q.A.3** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. | I can solve equations for given variables and use formulas to solve real-world problems. | Literal Equations |
| **A1.A.CED.A.1** Create equations and inequalities in one variable and use them to solve problems.  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. | I can solve linear inequalities by using addition, subtraction, multiplication, or division.  I can solve linear inequalities involving more than one operation including the Distributive Property. | Two-step and multi-step inequalities |
| **A1.A.CED.A.1** Create equations and inequalities in one variable and use them to solve problems.  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. | I can solve compound inequalities containing the words and/or and graph their solution set. | Compound inequalities |
| **A1.A.CED.A.1** Create equations and inequalities in one variable and use them to solve problems.  **A1.A.REI.B.2** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. | I can solve and graph absolute value inequalities. | Absolute value inequalities |
| **Relations and Functions**  Allow 4 weeks for instruction, review, & assessment | | |
| **A1.F.IF.A.1** Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of *f* is the graph of the equation y = f(x).  **A1.A.REI.D.5** Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line) | I can interpret various relations in multiple representations.  I can determine domain and range of a relation. | Relations   * domain and range * domain and range of continuous graphs |
| **A1.F.IF.A.1** Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of *f* is the graph of the equation y = f(x).  **A1.A.REI.D.5** Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line)  **A1.F.BF.A.1** Write a function that describes a relationship between two quantities.  **A1.F.IF.C.8** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). | I can determine whether a relation is a function and find function values. | Functions   * Functions vs. Relations |
| **A1.F.IF.B.3** For a function that models a relationship between two quantites, interpret key features of graphs and tables in terms of quantites, and sketch graphs showing key features given a verbal description of the relationship.  **A1.F.IF.B.4** Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. | I can use an x/y table to create values in order to graph functions. | Graphing Functions   * With function tables * Zeros of functions (graphically and algebraically) |
| **A1.F.IF.A.2** Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. | I can use function notation to evaluate equations. | Function Notation |
| **A1.F.LE.A.2** Construct linear and exponential function, including arithmetic and geometric sequences, given a graph, a table, a description of a relationship, or input-output pairs. | I can recognize arithmetic sequences and can relate arithmetic sequences to linear functions. | Arithmetic Sequences |