T.1 Constructing Graphs
This topic introduces the principles for creating neutral, well designed graphs. Choosing appropriate values for both axes to present meaningful displays of data is highlighted. Students also review the distinction between independent and dependent variables in a functional relationship, learn conventions related to this distinction, and are formally introduced to the concept of the domain and range of a function. Students also distinguish between discrete and continuous data.

T.2 Multiple Representations In The Real World
This topic connects the various representations of a problem – words, concrete elements, numbers, graphs, and algebraic expression – as students explore linear relationships. Students also learn how the same situation can be represented by different but equivalent algebraic expressions.

T.3. Functions
This topic solidifies students' understanding of the concept of a function and introduces formal function notation. Students connect previous work with sequences to the concept of a function.

T.4 Exploring Rates of Change in Motion Problems
This topic deepens student understanding of the central ideas of rate of change. Students discover that they can model data sets that have a constant rate of change with a linear function. Students also learn that not all data are linear, and thus require other models.

T.5 Exploring Rates of Change in Other Situations
This topic deepens student understanding of the central ideas of rate of change. Students discover that they can model data sets that have a constant rate of change with a linear function. Students also learn that not all data are linear, and thus require other models.

T.6 Moving Beyond Slope-Intercept
This topic builds on student understanding of slope and y-intercept of a linear function. Students investigate the effect of ***m*** and ***b*** on the graph of a linear function in the form $y = mx+b$. They also learn about the ***x***-intercept and linear equations of the form $x=c$. Students develop and apply the standard and point-slope forms for the equation of a line.

T.7 Creating Linear Models from Data
This topic revisits analyzing rate of change to determine whether using a linear model to represent data is appropriate. It also introduces the use of residuals to informally assess the fit of a linear function. Students learn that correlation does not imply causation. They also explore transformations of functions by transforming the parent function $y = x$ to create linear models for data.

T.8 Descriptive Statistics
In this topic students build on their understanding of numerical and graphical representations of univariate data. They also explore how to summarize and analyze bivariate categorical data.

T.9 Solving Linear Equations & Inequalities
In this topic, students leverage the connections among linear functions, linear equations, and linear inequalities as they create and solve equations and inequalities. They solidify and extend their understanding of solution techniques for single-variable equations and inequalities, and they learn how to graphically represent solutions to linear inequalities in two variables.

T.10 Absolute Value & Piecewise Functions
In this topic, students explore equations and inequalities arising from the absolute value function. They learn to solve these equations and inequalities using tables, graphs, and algebraic operations. Building on their understanding of the piecewise nature of the absolute value function, students also investigate other piecewise-defined functions.

T.11 Systems of Linear Equations and Inequalities
This topic builds on students' previous experiences with systems of linear equations and inequalities, in which two conditions apply to a situation. Students review how to set up a system of linear equations, solve it using graphs and tables, and check the solution for reasonableness. Students also learn how to set up a system of linear inequalities and solve it by graphing.

T.12 Other Methods for Solving Systems
Continuing with the exploration of systems of two linear equations, this topic addresses two algebraic methods for solving systems: The substitution method and the linear combination method.

T.13 Other Nonlinear Relationships
As a prelude to students' study of exponential and quadratic functions, this topic introduces nonlinear relationships between two quantities – specifically, quadratic and exponential relationships.

T.14 Laws of Exponents
This topic is a refresher on laws of exponents. It reviews principles for multiplying and dividing exponential expressions with common bases. It also uses explorations of number patterns to develop the meanings of positive and negative exponents, as well as zero as an exponent. The topic also introduces students to fractional exponents.

T.15 Exponential Functions and Equations
This topic builds on students' knowledge of exponential patterns by exploring different situations that can be modeled with exponential functions. Students use tables and graphs to contrast the repeated multiplication of exponential patterns with the repeated addition of linear patterns.

T.16 Graphs of Quadratic Functions
This topic continues the study of transformations on parent functions that began with linear functions. Students build on their previous exposure to quadratic functions as they review the features of the parent parabola, $y = x^2$, and explore how changes in the values of the constants a and c in $y = ax^2 + c$ affect the graph of this parent function.

T.17 Operations on Polynomials
This topic explores polynomial operations. Students learn how to multiply, add, and subtract polynomials using concrete models, and analytic techniques. They also learn how to factor trinomials using concrete models and analytic techniques. Students apply their new skills in working with rational expressions.

T.18 Modeling with Quadratic Functions
This topic continues the exploration of quadratic functions, focusing on how to build quadratic functions that model real-world situations. Students learn how to use transformations of quadratic functions to write quadratic equations in vertex form and then convert this form to standard form. Best fit and the

quadratic regression feature of graphic calculators are used to find a quadratic function rule in the form $y = ax^2 + bx + c$ to fit data.

T.19 Solving Quadratic Equations

This topic focuses on solving quadratic equations that arise from quadratic functions. Students learn to solve these equations by graphing, factoring, and completing the square, and they see how the solution methods are connected as they connect the roots of an equation, the x-intercepts of graph, and the zeros of a function.

T.20 The Quadratic Formula

This topic extends the work of the previous topic by introducing students to the quadratic formula as a method for solving quadratic equations. As using this formula sometimes requires students to simplify expressions containing square roots, the connection between the algebra and the geometry of square roots is explored. Students also learn how the value of the discriminant indicates the nature of the solutions.