Publisher/Developer:

Program Title:

Components:

Approved by the State Board of Education January 18, 2024

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# 2025 California Common Core State Standards: Mathematics Adoption[[1]](#footnote-2) Standards Map Template Integrated Mathematics I

\* *Indicates a modeling standard linking mathematics to everyday life, work, and decision-making*

## Organization Around Major Conceptual Ideas

Evaluation criterion statement 1.2 requires that programs be consistent with the content of the 2023 *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* (*Mathematics Framework*). In order to be considered suitable for adoption by the State Board of education, a publisher's or developer’s program must present content organized around major conceptual ideas, as demonstrated in chapters 6, 7, and 8, and as described in the Publishers and Content Developers Guide to the Mathematics Framework, found in chapter 13 of the *Mathematics Framework*.

1. Publishers/developers should use the first column of this table to list the major conceptual ideas used to organize the instructional program.
2. In the second column, publishers/developers should show how these relate to the Framework’s Big Ideas.
3. In the third column, publishers/developers should show the organization of the program by showing how the content standards are mapped to each of the major conceptual ideas or Big Ideas used by the program.

| **Major conceptual ideas in the program** | **How do the program’s major conceptual ideas map to the framework’s Big Ideas?** | **How are standards covered under the major conceptual ideas?** | **Met Yes** | **Met No** | **Reviewer Notes** |
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Publishers/developers should be aware of how major conceptual ideas develop from one grade to the next. For charts detailing the progression of the *Mathematics Framework*’s Big Ideas throughout the grade levels, see [chapter 6](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.cde.ca.gov%2Fci%2Fma%2Fcf%2Fdocuments%2Fmathfwchapter6.docx&wdOrigin=BROWSELINK) (TK–grade 2 and grades 3–5) and [chapter 7](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.cde.ca.gov%2Fci%2Fma%2Fcf%2Fdocuments%2Fmathfwchapter7.docx&wdOrigin=BROWSELINK) (grades 6–8).

State-adopted instructional materials help teachers to present and students to learn the content set forth in the *California Common Core State Standards for Mathematics with California Additions,* which include boththe content standards and the standards for mathematical practice (SMPs). Publishers/developers should use the following tables to provide page number citations or other references that demonstrate alignment with the SMPs and content standards.

## Standards for Mathematical Practice

| **Standard** | **Standard Language** | **Publisher/Developer Citations** | **Met Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| MP.1 | Make sense of problems and persevere in solving them. |  |  |  |  |
| MP.2 | Reason abstractly and quantitatively. |  |  |  |  |
| MP.3 | Construct viable arguments and critique the reasoning of others. |  |  |  |  |
| MP.4 | Model with mathematics. |  |  |  |  |
| MP.5 | Use appropriate tools strategically. |  |  |  |  |
| MP.6 | Attend to precision. |  |  |  |  |
| MP.7 | Look for and make use of structure. |  |  |  |  |
| MP.8 | Look for and express regularity in repeated reasoning. |  |  |  |  |

## Math I Content Standards

### Domain: Number and Quantity: Quantities

#### Cluster: Reason quantitatively and use units to solve problems.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| N-Q.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. \* |  |  |  |  |
| N-Q.2 | Define appropriate quantities for the purpose of descriptive modeling. \* |  |  |  |  |
| N-Q.3 | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. \* |  |  |  |  |

### Domain: Algebra: Seeing Structure in Expressions

#### Cluster: Interpret the structure of expressions.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| A-SSE.1a | Interpret expressions that represent a quantity in terms of its context. Interpret parts of an expression, such as terms, factors, and coefficients. \* |  |  |  |  |
| A-SSE.1b | Interpret expressions that represent a quantity in terms of its context. Interpret complicated expressions by viewing one or more of their parts as a single entity. \* |  |  |  |  |

### Domain: Algebra: Creating Equations

#### Cluster: Create equations that describe numbers or relationships.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| A-CED.1 | Create equations and inequalities in one variableincluding ones with absolute value and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. \* |  |  |  |  |
| A-CED.2 | Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. \* |  |  |  |  |
| A-CED.3 | Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. \* |  |  |  |  |
| A-CED.4 | Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.\* |  |  |  |  |

### Domain: Algebra: Reasoning with Equations and Inequalities

#### Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| A-REI.1 | Explain each step in solving a simple 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. |  |  |  |  |

#### Cluster: Solve equations and inequalities in one variable.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| A-REI.3 | Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. [Linear inequalities; literal equations that are linear in the variables being solved for; exponential of a form, such as two to the power x equals one sixteenth |  |  |  |  |
| A-REI.3.1 | Solve one-variable equations and inequalities involving absolute value, graphing the solutions and interpreting them in context. |  |  |  |  |

#### Cluster: Solve systems of equations.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| A-REI.5 | Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. |  |  |  |  |
| A-REI.6 | Solve systems of linear equations exactly and approximately, focusing on pairs of linear equations in two variables. |  |  |  |  |

#### Cluster: Represent and solve equations and inequalities graphically.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| A-REI.10 | 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). |  |  |  |  |
| A-REI.11 | Explain why the x-coordinates of the points where the graphs of the equations  y equals f of x and y equals g of x intersect are the solutions of the equation  f of x equals g of x  find the solutions approximately. Include cases where  f of x and or g of x  are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. \* |  |  |  |  |
| A-REI.12 | Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. |  |  |  |  |

### Domain: Functions: Interpreting Functions

#### Cluster: Understand the concept of a function and use function notation.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| F-IF.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 of x denotes the output of f corresponding to the input x. The graph of f is the graph of the equation  y equals f of x |  |  |  |  |
| F-IF.2 | Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. |  |  |  |  |
| F-IF.3 | Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. |  |  |  |  |

#### Cluster: Interpret functions that arise in applications in terms of the context.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| F-IF.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. \* |  |  |  |  |
| F-IF.5 | Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. \* |  |  |  |  |
| F-IF.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 change from a graph. \* |  |  |  |  |

#### Cluster: Analyze functions using different representations. [Linear and exponential]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| F-IF.7a | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph linear and quadratic functions and show intercepts, maxima, and minima. \* |  |  |  |  |
| F-IF.7e | Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. \* |  |  |  |  |
| F-IF.9 | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). |  |  |  |  |

### Domain: Functions: Building Functions

#### Cluster: Build a function that models a relationship between two quantities. [For F.BF.1, 2, linear and exponential (integer inputs)]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| F-BF.1a | Write a function that describes a relationship between two quantities. Determine an explicit expression, a recursive process, or steps for calculation from a context. \* |  |  |  |  |
| F-BF.1b | Write a function that describes a relationship between two quantities. Combine standard function types using arithmetic operations. \* |  |  |  |  |
| F-BF.2 | Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. \* |  |  |  |  |

#### Cluster: Build new functions from existing functions. [Linear and exponential; focus on vertical translations for exponential.]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| F-BF.3 | Identify the effect on the graph of replacing f of x by f of x plus k, kf of x, f of kx, and f of the quantity x plus 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. |  |  |  |  |

### Domain: Functions: Linear, Quadratic, and Exponential Models

#### Cluster: Construct and compare linear, quadratic, and exponential models and solve problems. [Linear and exponential]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| F-LE.1a | Distinguish between situations that can be modeled with linear functions and with exponential functions. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. \* |  |  |  |  |
| F-LE.1b | Distinguish between situations that can be modeled with linear functions and with exponential functions. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. \* |  |  |  |  |
| F-LE.1c | Distinguish between situations that can be modeled with linear functions and with exponential functions. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. \* |  |  |  |  |
| F-LE.2 | Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). \* |  |  |  |  |
| F-LE.3 | Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. \* |  |  |  |  |

#### Cluster: Interpret expressions for functions in terms of the situation they model. [Linear and exponential of form *f(x) = bx + k*]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| F-LE.5 | Interpret the parameters in a linear or exponential function in terms of a context. \* |  |  |  |  |

### Domain: Geometry: Congruence

#### Cluster: Experiment with transformations in the plane.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| G-CO.1 | Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. |  |  |  |  |
| G-CO.2 | Represent transformations in the plane; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not. |  |  |  |  |
| G-CO.3 | Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. |  |  |  |  |
| G-CO.4 | Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. |  |  |  |  |
| G-CO.5 | Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure. Specify a sequence of transformations that will carry a given figure onto another. |  |  |  |  |

#### Cluster: Understand congruence in terms of rigid motions. [Build on rigid motions as a familiar starting point for development of concept of geometric proof.]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| G-CO.6 | Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. |  |  |  |  |
| G-CO.7 | Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. |  |  |  |  |
| G-CO.8 | Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. |  |  |  |  |

#### Cluster: Make geometric constructions. [Formalize and explain processes.]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| G-CO.12 | Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line. |  |  |  |  |
| G-CO.13 | Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle. |  |  |  |  |

### Domain: Geometry: Expressing Geometric Properties with Equations

#### Cluster: Use coordinates to prove simple geometric theorems algebraically. [Include distance formula; relate to Pythagorean Theorem.]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| G-GPE.4 | Use coordinates to prove simple geometric theorems algebraically. |  |  |  |  |
| G-GPE.5 | Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems. |  |  |  |  |
| G-GPE.7 | Use coordinates to compute perimeters of polygons and areas of triangles and rectangles. \* |  |  |  |  |

### Domain: Statistics and Probability: Interpreting Categorical and Quantitative Data

#### Cluster: Summarize, represent, and interpret data on a single count or measurement variable.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| S-ID.1 | Represent data with plots on the real number line (dot plots, histograms, and box plots). \* |  |  |  |  |
| S-ID.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. \* |  |  |  |  |
| S-ID.3 | Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).\* |  |  |  |  |

#### Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables. [Linear focus; discuss general principle.]

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| S-ID.5 | Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. \* |  |  |  |  |
| S-ID.6a | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. \* |  |  |  |  |
| S-ID.6b | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. Informally assess the fit of a function by plotting and analyzing residuals. \* |  |  |  |  |
| S-ID.6c | Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. Fit a linear function for a scatter plot that suggests a linear association. |  |  |  |  |

#### Cluster: Interpret linear models.

How does the program address this aspect of the domain?

| **Standard** | **Standards Language** | **Publisher/Developer Citations** | **Met**  **Yes** | **Met No** | **Reviewer Notes** |
| --- | --- | --- | --- | --- | --- |
| S-ID.7 | Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. \* |  |  |  |  |
| S-ID.8 | Compute (using technology) and interpret the correlation coefficient of a linear fit. \* |  |  |  |  |
| S-ID.9 | Distinguish between correlation and causation. \* |  |  |  |  |

## Appendix: (Publisher/Developer, please enter any additional notes regarding the standards below.)

California Department of Education, October 2024

1. The California Common Core State Standards: Mathematics were adopted by the State Board of Education on August 2, 2010, (and modified pursuant to Senate Bill 1200 on January 16, 2013). This standards map is organized by Big Idea and Content Connections in alignment with the *Mathematics Framework for California Public Schools: Kindergarten Through Grade Twelve*, approved by the State Board of Education on July 12, 2023. [↑](#footnote-ref-2)