INDIANA'S EDUCATION ROUNDTABLE 2010

Instructional Materials Analysis and Selection

Phase 3: Assessing Content Alignment to the Common Core State Standards for Mathematics

Integrated Pathway for High School: Mathematics I

a project of
The Charles A. Dana Center
at the University of Texas at Austin

Instructional Materials Analysis and Selection

Phase 3:

Assessing Content Alignment to the Common Core State Standards for Mathematics

A project of

The Indiana Education Roundtable, The Indiana Department of Education,

and

The Charles A. Dana Center at The University of Texas at Austin

2010–2011

Instructional Materials Analysis and Selection
Assessing Content Alignment to the Common Core State Standards for Mathematics

This tool provides educators with a structured way to make informed decisions when selecting mathematics instructional materials. In particular, it can help you become more knowledgeable about the *Common Core State Standards for Mathematics* so you can select instructional materials aligned with these standards.

This resource can also be used with the Dana Center's larger 4-phase *Instructional Materials Analysis and Selection* toolset: Phase 1: *Studying the Standards*, Phase 2: *Narrowing the Field of Instructional Materials*, Phase 3: *Assessing Subject-Area Content Alignment*, and Phase 4: *Assessing Vertical Alignment of Instructional Materials*. The particular resource you hold is a phase 3 tool that has been customized for assessing the alignment of instructional materials with the *Common Core State Standards for Mathematics*. Note that in 2009, the Dana Center developed a similar tool for Indiana educators to use in analyzing the alignment of instructional materials to Indiana's *Academic Standards for Mathematics.*

Copyright 2011, 2010, the Charles A. Dana Center at The University of Texas at Austin

Unless otherwise indicated, the materials found in this resource are the copyrighted property of the Charles A. Dana Center at The University of Texas at Austin (the University). No part of this resource shall be reproduced, stored in a retrieval system, or transmitted by any means—electronically, mechanically, or via photocopying, recording, or otherwise, including via methods yet to be invented—without express written permission from the University, except under the following conditions. The following excludes materials not exclusively owned by the Charles A. Dana Center at the University of Texas at Austin.

1) *The Indiana Department of Education, as well as Indiana school districts,* can, through June 30, 2011, copy and disseminate this resource to schools and districts within the state of Indiana, without obtaining further permission from the University, so long as the original copyright notice is retained.

2) *Other organizations or individuals* must obtain prior written permission from the University for the use of these materials, the terms of which may be set forth in a copyright license agreement, and which may include the payment of a licensing fee, or royalties, or both.

We use all funds generated through use of our materials to further our nonprofit educational mission. Please send permission requests or questions to us here:

Charles A. Dana Center
The University of Texas at Austin
1616 Guadalupe Street, Suite 3.206
Austin, TX 78701-1222

Fax: 512-232-1855
dana-txshop@utlists.utexas.edu
www.utdanacenter.org

The Dana Center and The University, as well as the authors and editors, assume no liability for any loss or damage resulting from the use of this resource. Any opinions, findings, conclusions, or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of The University of Texas at Austin. We have made extensive efforts to ensure the accuracy of the information in this resource, to provide proper acknowledgement of original sources, and to otherwise comply with copyright law. If you find an error or you believe we have failed to provide proper acknowledgment, please contact us at dana-txshop@utlists.utexas.edu.

The copyright of the *Common Core State Standards for Mathematics* is held by the National Governors Association Center for Best Practices and the Council of Chief State School Officers. The use of the CCSS for Mathematics in this Instructional Materials Analysis tool is done under the CCSS Terms of Use, available at www.corestandards.org/terms-of-use. For more detail, see *About the development of this resource.*

Per the Terms of Use, we include this notice, which applies to the Common Core State Standards in this document: © Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

About the development of this resource

This tool, *Instructional Materials Analysis and Selection: Assessing Content Alignment to the Common Core State Standards for Mathematics*, draws on the Dana Center's nearly 20 years of experience in strengthening education and has been used extensively in Texas and, increasingly, other states, to help local school districts and schools select instructional materials aligned with their standards. Development and production of the Instructional Materials Analysis toolset was supported by the Charles A. Dana Center.

This resource consists of a set of 15 individual grade-level / course documents that span kindergarten through the third year of high school mathematics. There is a document for each grade from kindergarten through 8, and six documents for high school mathematics (one each for the three courses in the traditional high school pathway Algebra I, Geometry, Algebra II; and one each for the three courses in the integrated high school pathway Mathematics I, Mathematics II, and Mathematics III).[*] At the request of various states and other entities, the Dana Center has populated this *Instructional Materials Analysis and Selection* tool with standards from the *Common Core State Standards for Mathematics* for use by local districts in selecting instructional materials aligned with these standards.

Note that the copyright of the *Common Core State Standards for Mathematics* is held by the National Governors Association Center for Best Practices and the Council of Chief State School Officers (collectively, NGA Center/CCSSO). This use of the CCSS for Mathematics is done under the CCSS Terms of Use, available at www.corestandards.org/terms-of-use. Specifically, this work is done under the Terms of Use "non-exclusive, royalty-free license to copy, publish, distribute, and display the Common Core State Standards for non-commercial purposes that support the Common Core State Standards Initiative." For a complete copy of the *Common Core State Standards for Mathematics* as well as the *CCSS for Mathematics, Appendix A: Designing high school mathematics courses based on the Common Core State Standards,* go to **www.corestandards.org/the-standards**.

October 2010 release.

We welcome your comments and suggestions for improvements—please send to **dana-txshop@utlists.utexas.edu** or the address in the copyright section above.

About the Charles A. Dana Center at The University of Texas at Austin

The Dana Center works to raise student achievement in K–16 mathematics and science, especially for historically underserved populations. We do so by providing direct service to school districts and institutions of higher education; to local, state, and national education leaders; and to agencies, nonprofits, and professional organizations concerned with strengthening American education.

The Center was founded in 1991 at The University of Texas at Austin. We carry out our work by supporting high standards and building system capacity; collaborating with key state and national organizations to address emerging issues; creating and delivering professional supports for educators and education leaders; and writing and publishing education resources, including student supports. Our staff of more than 60 has worked with dozens of school systems in nearly 20 states and with 90 percent of Texas's more than 1,000 school districts. We are committed to ensuring that the accident of where a child attends school does not limit the academic opportunities he or she can pursue.

For more information about our programs and resources, see our homepage at **www.utdanacenter.org.** To access our resources (many of them free), see our products index at **www.utdanacenter.org/products.** And to learn more about our professional development—and sign up online—go to **www.utdanacenter.org/pd**.

[*] For the high school course sequences, we relied on the *Common Core State Standards Mathematics Appendix A: Designing High School Mathematics Courses Based on the Common Core State Standards*, developed for the CCSS initiative by Achieve, Inc., which convened and managed the Achieve Pathways Group.

Acknowledgments

Unless otherwise noted, all staff listed here are affiliated with the Dana Center.

Project director

Laurie Garland, director of program and product development
Sam Zigrossi, senior advisor

Developers and facilitators

Patti Bridwell, senior program coordinator for leadership
Laurie Garland, director of program and product development
Tom McVey, professional development team lead
Sam Zigrossi, senior advisor

Our thanks

We gratefully acknowledge the more than 100 school districts and thousands of educators who have informed the development of these resources.

Editorial and production staff

Cara Hopkins, proofreader
Rachel Jenkins, consulting editor
Tom McVey, professional development team lead and print production manager
Phil Swann, senior designer

Table of contents

Introduction....1

Scoring Rubric and Documentation Forms....3

Documenting Alignment to the CCSS for Mathematics: Standards for Mathematical Practice....6

Documenting Alignment to the CCSS for Mathematics: Standards for Mathematical Content....14

Introduction

Phase 1: Studying the Standards

Phase 2: Narrowing the Field of Instructional Materials

Phase 3: Assessing Mathematical Content Alignment

The purpose of Phase 3: Assessing Mathematical Content Alignment is to determine the degree to which the materials are aligned to the standards (content and processes). In Phase 3, participants conduct an in-depth review of the 2-3 instructional materials selected in Phase 2. The Phase 3 process requires selection committee members to use set criteria in order to determine a rating for each sample, to cite examples to justify their score for each sample, and to document standards that are missing or not well-developed in the instructional materials examined.

Implementation

As a whole group, selection committee members should practice applying the Phase 3 rubric. The purpose of the whole group practice is to promote inter-rater reliability and calibration.

In Phase 3 it is not important to analyze every page, section, or chapter of a resource. It is important to identify an area, topic, or big idea for the deep content analysis of Phase 3 (e.g. development of equivalent fractions, addition of whole numbers, development of proportionality…). The identified area, topic, or big idea will be used for all the instructional materials considered in Phase 3. The area, topic, or big idea can be identified through the use of student achievement data, curriculum priorities/challenges, or ideas that typically make up a greater portion of instruction in particular grade levels/courses. In most cases, Phase 3 will identify the one resource that is best aligned.

Step-by-Step Instructions

1. Use your current adoption to practice using the Phase 3 rubric. Select one big idea to focus your analysis (see note above for selecting the area, topic, or big idea).
2. Independently, committee members use their current resource, the identified big idea (and associated pages in that resource), and the Phase 3 rubric to score and document the extent to which the material (content and processes) aligns to the standards.
3. In small groups, committee members share their scoring and justifications. Small groups come to consensus on how the current resource would score on this big idea.
4. Each small group shares with the large group their score. Repeat the consensus building to generate a large group score on this big idea.
5. Clarify any misunderstandings about how to apply the rubric before committee members begin to use Phase 3 rubric on the selected materials.

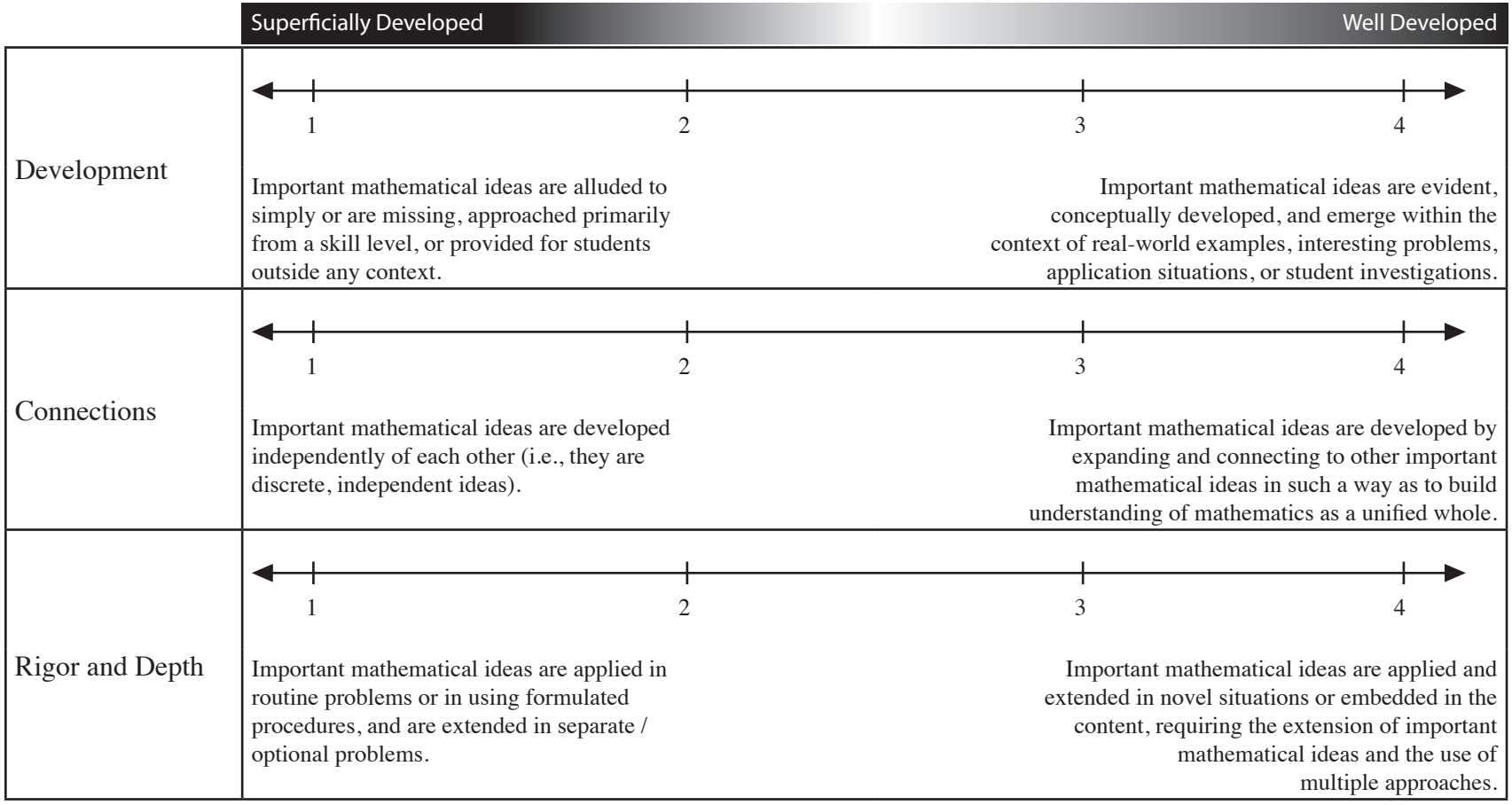
6. Based on the size of the selection committee, determine the number of areas, topics, or big ideas to be examined for each grade/course. If the group size is large, more areas, topics, big ideas can be examined within each grade level/course.
7. Make sure committee members have multiple copies of the Phase 3 rubric.
8. Committee members apply the Phase 3 rubric for each of the materials.
9. Establish a time line for groups to complete and submit Phase 3 documentation.
10. Establish a data collection and analysis process to attain a rating for each resource.

Materials and Supplies

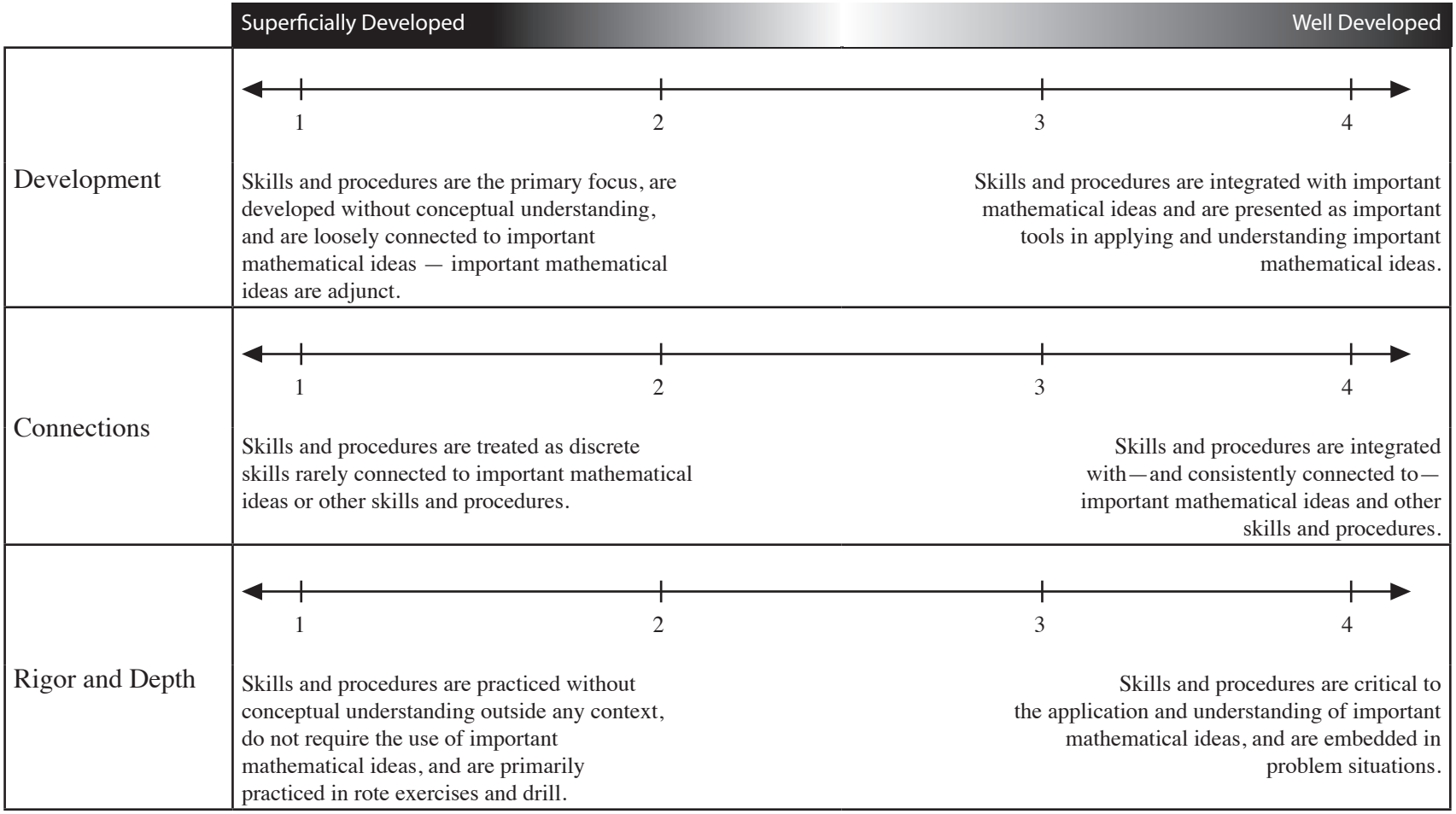
- Phase 3: Assessing Mathematical Content Alignment black line master — multiple copies per person
- Currently used instructional resource
- The 2 to 4 instructional materials selected in Phase 2

Phase 4: Assessing Vertical Alignment of Instructional Materials

Important Mathematical Ideas:
Understanding the scoring



Skills and Procedures:
Understanding the scoring



Mathematical Relationships: Understanding the scoring

Development	1 2 3 4 Mathematical relationships are not evident, and mathematics appears as a series of discrete skills and ideas. — Mathematical relationships are evident in such a way as to build understanding of mathematics as a unified whole.
Connections	1 2 3 4 Mathematical relationships are not required of students or are used primarily to provide a context for the practice of skills or procedures — words wrapped around drill. — Mathematical relationships are integrated with important mathematical ideas, and are integral in required activities, problems, and applications.
Rigor and Depth	1 2 3 4 Mathematical relationships require the use of skills and procedures, but rarely require the use of any important mathematical ideas or connections outside mathematics. — Mathematical relationships require the broad use of mathematics and integrate the need for important mathematical ideas, skills, and procedures, as well as connections outside mathematics.

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

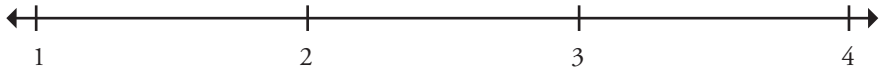
Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

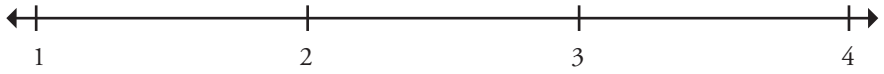
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

3. Construct viable arguments and critique the reasoning of others.

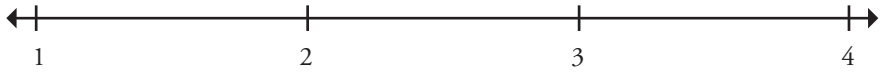
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

4. Model with mathematics.

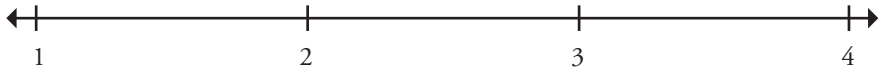
Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

5. Use appropriate tools strategically.

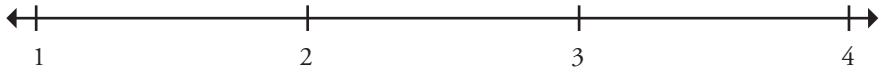
Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

6. Attend to precision.

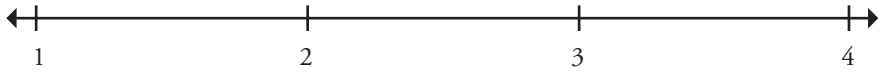
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

7. Look for and make use of structure.

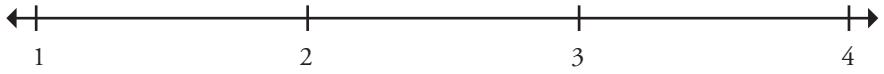
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

8. Look for and express regularity in repeated reasoning.

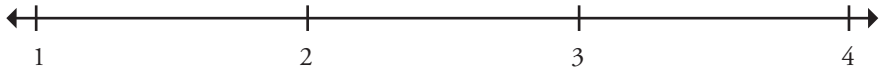
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

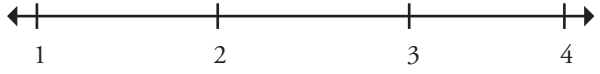


Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — NUMBER AND QUANTITY (N)

Quantities (N-Q)

Reason quantitatively and use units to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
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.* Note: Foundation for work with expressions, equations and functions. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — NUMBER AND QUANTITY (N)

Quantities (N-Q)

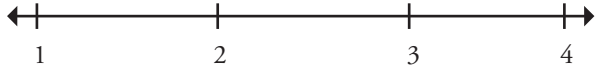
Reason quantitatively and use units to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
N-Q.2 Define appropriate quantities for the purpose of descriptive modeling.* Note: Foundation for work with expressions, equations and functions. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — NUMBER AND QUANTITY (N)

Quantities (N-Q)

Reason quantitatively and use units to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
N-Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.* Note: Foundation for work with expressions, equations and functions. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-SSE.1a 1. Interpret expressions that represent a quantity in terms of its context.* a. Interpret parts of an expression, such as terms, factors, and coefficients. Note: Linear expressions and exponential expressions with integer exponents. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

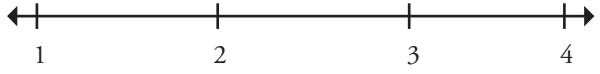
Interpret the structure of expressions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-SSE.1b 1. Interpret expressions that represent a quantity in terms of its context.* b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P*. Note: Linear expressions and exponential expressions with integer exponents. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Creating Equations (A-CED)

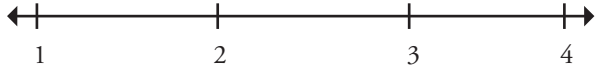
Create equations that describe numbers or relationships.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*⋆ Note: Linear, and exponential (integer inputs only). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Creating Equations (A-CED)

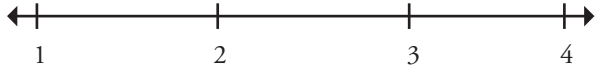
Create equations that describe numbers or relationships.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.* Note: Linear, and exponential (integer inputs only). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Creating Equations (A-CED)

Create equations that describe numbers or relationships.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
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. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.** Note: Linear (integer inputs only). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Creating Equations (A-CED)

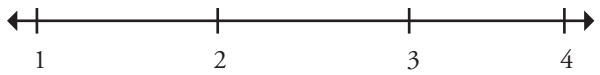
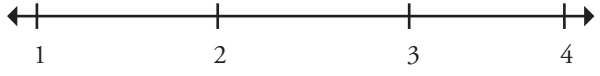
Create equations that describe numbers or relationships.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.** Note: Linear, and exponential (integer inputs only). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

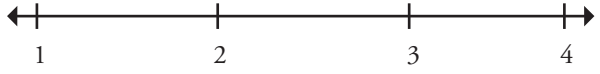
Understand solving equations as a process of reasoning and explain the reasoning.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method. Note: Master linear, learn as general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

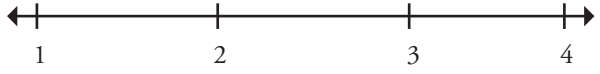
Solve equations and inequalities in one variable.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. Note: Linear inequalities; literal that are linear in the variables being solved for; exponential of a form, such as $2^x = 1/16$. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

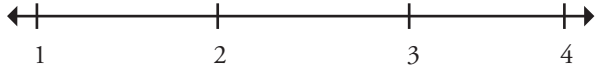
Solve systems of equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. Note: Linear systems. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

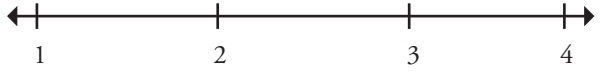
Solve systems of equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. Note: Linear systems. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

Represent and solve equations and inequalities graphically.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
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). Note: Linear and exponential; learn as general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

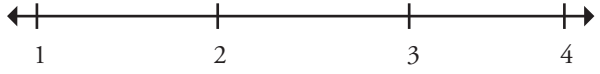
Represent and solve equations and inequalities graphically.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.11 Explain why the *x*-coordinates of the points where the graphs of the equations *y = f(x)* and *y = g(x)* intersect are the solutions of the equation *f(x) = g(x)*; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where *f(x)* and/or *g(x)* are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.* Note: Linear and exponential; learn as general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

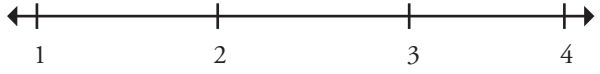
Represent and solve equations and inequalities graphically.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. Note: Linear and exponential; learn as general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

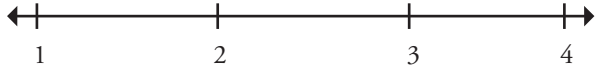
Understand the concept of a function and use function notation.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If *f* is a function and *x* is an element of its domain, then *f(x)* denotes the output of *f* corresponding to the input *x*. The graph of *f* is the graph of the equation *y* = *f(x)*. Note: Learn as general principle. Focus on linear and exponential (integer domains) and on arithmetic and geometric sequences. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

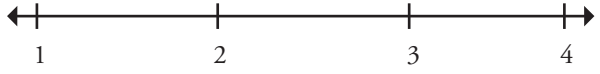
Understand the concept of a function and use function notation.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. Note: Learn as general principle. Focus on linear and exponential (integer domains) and on arithmetic and geometric sequences. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

Understand the concept of a function and use function notation.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.* Note: Learn as general principle. Focus on linear and exponential (integer domains) and on arithmetic and geometric sequences. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

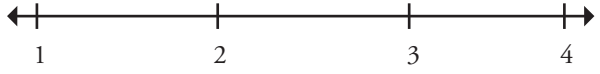
Interpret functions that arise in applications in terms of the context.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.** Note: Linear and exponential, (linear domain). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

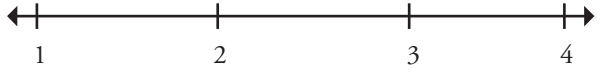
Interpret functions that arise in applications in terms of the context.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.** Note: Linear and exponential, (linear domain). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

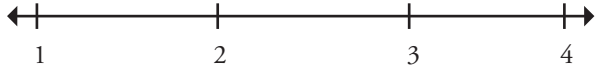
Interpret functions that arise in applications in terms of the context.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.⋆ Note: Linear and exponential, (linear domain). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

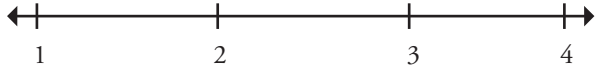
Analyze functions using different representations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.7a 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* a. Graph linear and quadratic functions and show intercepts, maxima, and minima. Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

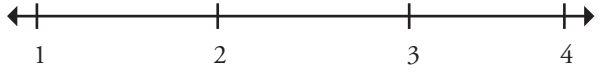
Analyze functions using different representations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.7e 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Interpreting Functions (F-IF)

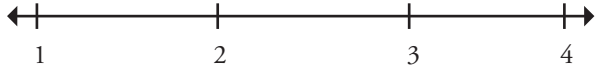
Analyze functions using different representations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.* Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Building Functions (F-BF)

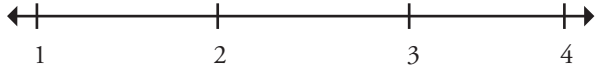
Build a function that models a relationship between two quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.1a 1. Write a function that describes a relationship between two quantities.* a. Determine an explicit expression, a recursive process, or steps for calculation from a context. Note: Linear and exponential (integer inputs). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Building Functions (F-BF)

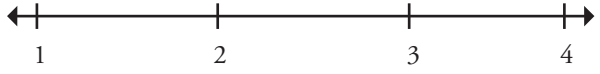
Build a function that models a relationship between two quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.1b 1. Write a function that describes a relationship between two quantities.* b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* Note: Linear and exponential (integer inputs). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Building Functions (F-BF)

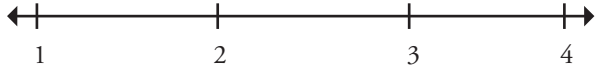
Build a function that models a relationship between two quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.* Note: Linear and exponential (integer inputs). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Building Functions (F-BF)

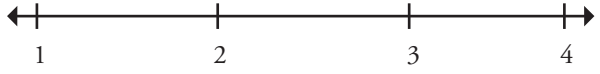
Build new functions from existing functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.3 Identify the effect on the graph of replacing *f(x)* by *f(x) + k, k f(x), f(kx),* and *f(x + k)* for specific values of *k* (both positive and negative); find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* Note: Linear and exponential; focus on vertical translations for exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

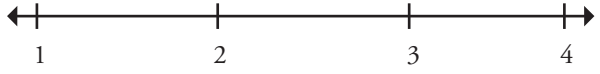
Construct and compare linear, quadratic, and exponential models and solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-LE.1a 1. Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.* Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

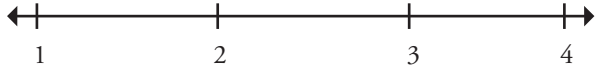
Construct and compare linear, quadratic, and exponential models and solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-LE.1b 1. Distinguish between situations that can be modeled with linear functions and with exponential functions. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.* Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

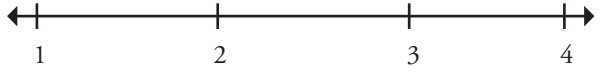
Construct and compare linear, quadratic, and exponential models and solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-LE.1c 1. Distinguish between situations that can be modeled with linear functions and with exponential functions. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.* Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

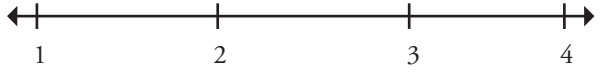
Construct and compare linear, quadratic, and exponential models and solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-LE.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).* Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

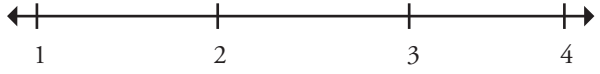
Construct and compare linear, quadratic, and exponential models and solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.* Note: Linear and exponential. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

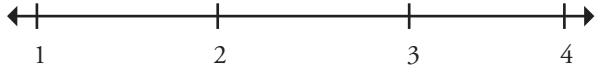
Interpret expressions for functions in terms of the situation they model.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-LE.5 Interpret the parameters in a linear or exponential function in terms of a context.* Note: Linear and exponential of form $f(x) = b^x + k$. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

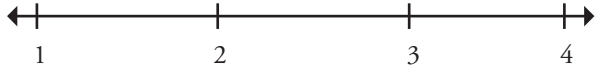
Experiment with transformations in the plane.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

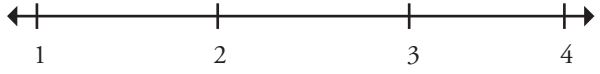
Experiment with transformations in the plane.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

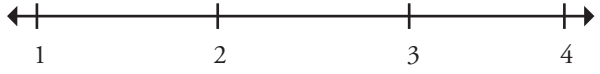
Experiment with transformations in the plane.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

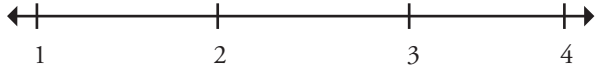
Experiment with transformations in the plane.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

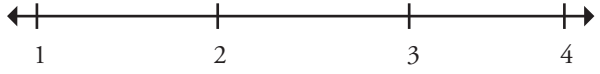
Experiment with transformations in the plane.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

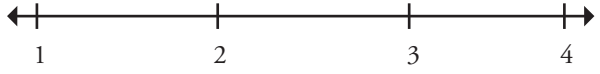
Understand congruence in terms of rigid motions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. Note: Build on rigid motions as a familiar starting point for development of concept of geometric proof. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

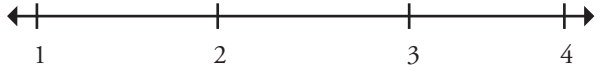
Understand congruence in terms of rigid motions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. Note: Build on rigid motions as a familiar starting point for development of concept of geometric proof. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

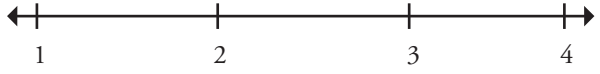
Understand congruence in terms of rigid motions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. Note: Build on rigid motions as a familiar starting point for development of concept of geometric proof. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

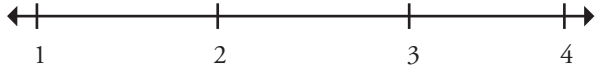
Make geometric constructions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic 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.* Note: Formalize and explain processes. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Congruence (G-CO)

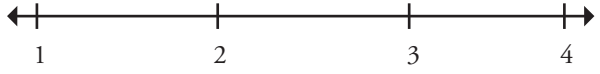
Make geometric constructions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle. Note: Formalize and explain processes. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Expressing Geometric Properties with Equations (G-GPE)

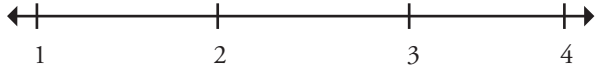
Use coordinates to prove simple geometric theorems algebraically.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-GPE.4 Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* Note: Include distance formula; relate to Pythagorean theorem. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Expressing Geometric Properties with Equations (G-GPE)

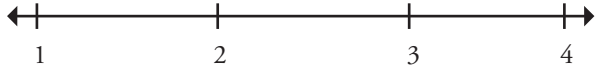
Use coordinates to prove simple geometric theorems algebraically.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-GPE.5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). Note: Include distance formula; relate to Pythagorean theorem. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — GEOMETRY (G)

Expressing Geometric Properties with Equations (G-GPE)

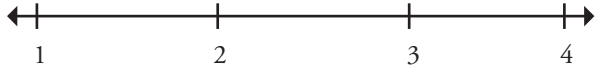
Use coordinates to prove simple geometric theorems algebraically.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
G-GPE.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.* Note: Include distance formula; relate to Pythagorean theorem. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

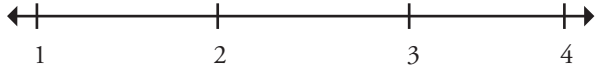
Summarize, represent, and interpret data on a single count or measurement variable.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

Summarize, represent, and interpret data on a single count or measurement variable.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
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. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

Summarize, represent, and interpret data on a single count or measurement variable.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
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). **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

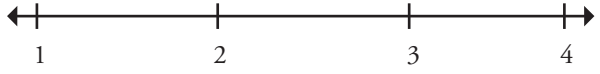
Summarize, represent, and interpret data on two categorical and quantitative variables.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. Note: Linear focus; discuss general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

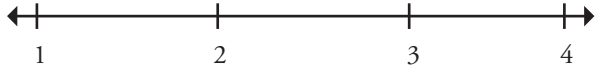
Summarize, represent, and interpret data on two categorical and quantitative variables.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.6a 6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. 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.* Note: Linear focus; discuss general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

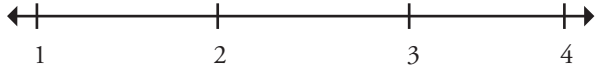
Summarize, represent, and interpret data on two categorical and quantitative variables.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.6b 6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. b. Informally assess the fit of a function by plotting and analyzing residuals. Note: Linear focus; discuss general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

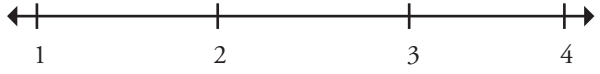
Summarize, represent, and interpret data on two categorical and quantitative variables.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.6c 6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. c. Fit a linear function for a scatter plot that suggests a linear association. Note: Linear focus; discuss general principle. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

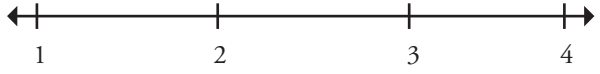
Interpret linear models.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

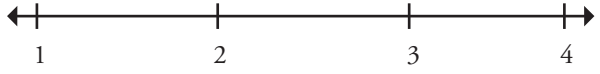
Interpret linear models.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS I — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

Interpret linear models.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
S-ID.9 Distinguish between correlation and causation. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating