TEXTBOOK REVIEW FORM

MATHEMATICS

APPLICATIONS FOR FINITE MATHEMATICS

Textbook/Series: _____

Edition: _____ Copyright: _____ Publisher: _____

Reviewed by: _____

This form was based in part on:

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

Adapted for Alabama State Department of Education

STANDARDS FOR MATHEMATICAL PRACTICE – MATHEMATICS – GRADE K-12 – OVERALL

Textbook/Series: _____

Edition: _____ Copyright: _____ Publisher: _____

OVERALL RATING:	Weak (1-2) Moderate (2-3) Strong (3-4)	**Comments:**	
1. Make sense of problems and preserve in solving them. **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)	2. Reason abstractly and quantitatively. **Summary/Justification/Evidence**	Weak (1-2) Moderate (2-3) Strong (3-4)
3. Construct viable arguments and critique the reasoning of others. **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)	4. Model with mathematics. **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)
5. Use appropriate tools strategically. **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)	6. Attend to precision. **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)
7. Look for and make use of structure. **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)	8. Look for and express regularity in repeated reasoning. **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)

Weak: This is the lowest rating a book can receive. In general, a book that was rated as "weak" scored mostly 1s and 2s on a 4-point scale.

Moderate: This is the middle rating a book can receive. In general, a book that was rated as "moderate" scored mostly 2s and 3s on a 4-point scale.

S**trong**: This is the highest rating a book can receive. In general, a book that was rated as "strong" scored mostly 3s and 4s on a 4-point scale.

Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

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

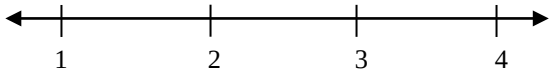
These students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. These students 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 obtain 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 solve complex problems and identify correspondences between different approaches.

Indicate the chapter(s), sections, and/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



Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

2. Reason abstractly and quantitatively.

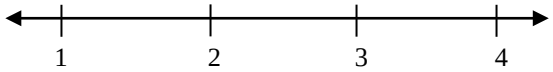
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships. One is the ability to *decontextualize*, to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents. The second is 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), sections, and/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



Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

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

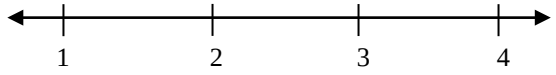
These students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases and can recognize and use counterexamples. These students 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 the middle or upper grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen to 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), sections, and/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



Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

4. Model with mathematics.

These 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, students might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, students 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 and 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), sections, and/or page(s) reviewed.

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

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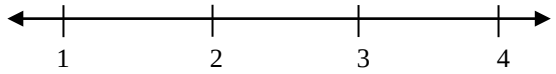

Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

5. Use appropriate tools strategically.

Mathematically proficient students consider 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 Web site, and use these to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), sections, and/or page(s) reviewed.

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

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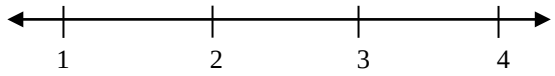
Overall Rating



Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

6. Attend to precision.

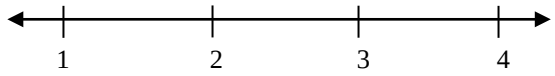
These students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. Mathematically proficient students are careful about specifying units of measure and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, and 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), sections, and/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



Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

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. These students also can pause and reflect for an overview and shift perspective. They can observe the complexities of mathematics, 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), sections, and/or page(s) reviewed.

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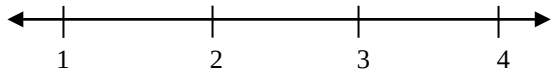

Documenting Alignment to the Standards for Mathematical Practice

Mathematically proficient students:

8. Look for and express regularity in repeated reasoning.

They 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 $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As students work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details and continually evaluate the reasonableness of their intermediate results.

Indicate the chapter(s), sections, and/or page(s) reviewed.

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

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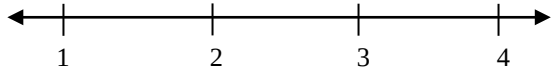
Overall Rating



TEXTBOOK REVIEW FORM – MATHEMATICS – OVERALL
MATHEMATICAL STANDARDS & OTHER CRITERIA – GEOMETRY

Textbook/Series: _____

Edition: _____ Copyright: _____ Publisher: _____

OVERALL RATING:	Weak (1-2) Moderate (2-3) Strong (3-4)	Important Mathematical Ideas: **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)
Skills and Procedures: **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)	Mathematical Relationships: **Summary/Justification/Evidence**	Weak (1-2) Moderate (2-3) Strong (3-4)
Content: **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)	Instruction: **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)
Assessment: **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)	Technology: **Summary/Justification/Evidence:**	Weak (1-2) Moderate (2-3) Strong (3-4)

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S**trong**: This is the highest rating a book can receive. In general, a book that was rated as "strong" scored mostly 3s and 4s on a 4-point scale.

Logical Reasoning

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 1. Represent logic statements in words, with symbols, and in truth tables, including conditional, biconditional, converse, inverse, contrapositive, and quantified statements. **Indicate the chapter(s), sections, 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

Logical Reasoning

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 2. Represent logic operations such as and, *or*, *not*, *nor*, and *x or* (exclusive or) in words, with symbols, and in truth tables. **Indicate the chapter(s), sections, 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

Logical Reasoning

<table>
<tr><td></td><td colspan="5">Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</td></tr>
<tr><td rowspan="3">Students will:

3. Use truth tables to solve application-based logic problems and determine the truth value of simple and compound statements including negations and implications.
 a. Determine whether statements are equivalent and construct equivalent statements.
 Example: Show that the contrapositive of a statement is its logical equivalent.

Indicate the chapter(s), sections, and/or page(s) reviewed.</td><td>Important Mathematical Ideas</td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>Skills and Procedures

Mathematical Relationships

Summary/Justification/Evidence</td><td>1

1</td><td>2

2</td><td>3

3</td><td>4

4</td></tr>
<tr><td colspan="5">Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</td></tr>
<tr><td></td><td colspan="5">Overall Rating

1 2 3 4</td></tr>
</table>

Logical Reasoning

<table>
<tr><td></td><td>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</td></tr>
<tr><td rowspan="3">Students will:

4. Determine whether a logical argument is valid or invalid, using laws of logic such as the law of syllogism and the law of detachment.
a. Determine whether a logical argument is a tautology or a contradiction.

Indicate the chapter(s), sections, and/or page(s) reviewed.</td><td>Important Mathematical Ideas 1 2 3 4

Skills and Procedures 1 2 3 4

Mathematical Relationships 1 2 3 4

Summary/Justification/Evidence</td></tr>
<tr><td>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</td></tr>
<tr><td>Overall Rating

1 2 3 4</td></tr>
</table>

Logical Reasoning

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 5. Prove a statement indirectly by proving the contrapositive of the statement. **Indicate the chapter(s), sections, 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

Advanced Accounting

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 6. Use multiple representations and methods for counting objects and developing more efficient counting techniques. *Note: Representations and methods may include tree diagrams, lists, manipulatives, overcounting methods, recursive patterns, and explicit formulas.* **Indicate the chapter(s), sections, 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

Advanced Accounting

<table>
<tr><td></td><td colspan="5">Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</td></tr>
<tr><td rowspan="3">Students will:

7. Develop and use the Fundamental Counting Principle for counting independent and dependent events.
a. Use various counting models (including tree diagrams and lists) to identify the distinguishing factors of a context in which the Fundamental Counting Principle can be applied.
Example: Apply the Fundamental Counting Principle in a context that can be represented by a tree diagram in which there are the same number of branches from each node at each level of the tree.

Indicate the chapter(s), sections, and/or page(s) reviewed.</td><td>Important Mathematical Ideas</td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>Skills and Procedures
Mathematical Relationships

Summary/Justification/Evidence</td><td>1
1</td><td>2
2</td><td>3
3</td><td>4
4</td></tr>
<tr><td colspan="5">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</td></tr>
</table>

Advanced Accounting

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 8. Using application-based problems, develop formulas for permutations, combinations, and combinations with repetition and compare student-derived formulas to standard representations of the formulas. *Example: If there are r objects chosen from n objects, then the number of permutations can be found by the product [n(n-1) … (n-r)(n-r+1)] as compared to the standard formula n!/(n-r)!.* a. Identify differences between applications of combinations and permutations. b. Using application-based problems, calculate the number of permutations of a set with n elements. Calculate the number of permutations of *r* elements taken from a set of *n* elements. c. Using application-based problems, calculate the number of subsets of size r that can be chosen from a set of n elements, explaining this number as the number of combinations *"n* choose *r."* d. Using application-based problems, calculate the number of combinations with repetitions of *r* elements from a set of *n* elements as *"(n + r – 1)* choose *r."* **Indicate the chapter(s), sections, 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

Advanced Accounting

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 9. Use various counting techniques to determine probabilities of events **Indicate the chapter(s), sections, 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

Advanced Accounting

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 10. Use the Pigeonhole Principle to solve counting problems. **Indicate the chapter(s), sections, 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

Recursion

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 11. Find patterns in application problems involving series and sequences, and develop recursive and explicit formulas as models to understand and describe sequential change. *Examples: fractals, population growth* **Indicate the chapter(s), sections, 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

Recursion

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 12. Determine characteristics of sequences, including the Fibonacci Sequence, the triangular numbers, and pentagonal numbers. *Example: Write a sequence of the first 10 triangular numbers and hypothesize a formula to find the nth triangular number.* **Indicate the chapter(s), sections, 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

Recursion

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 13. Use the recursive process and difference equations to create fractals, population growth models, sequences, and series. **Indicate the chapter(s), sections, 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

Recursion

<table>
<tr><td></td><td>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</td></tr>
<tr><td rowspan="3">Students will:

14. Use mathematical induction to prove statements involving the positive integers.
Examples: Prove that 3 divides $2^{2n} - 1$ for all positive integers n; prove that $1 + 2 + 3 + ... + n = n(n + 1)/2$; prove that a given recursive sequence has a closed form expression.

Indicate the chapter(s), sections, and/or page(s) reviewed.</td><td>Important Mathematical Ideas 1 2 3 4

Skills and Procedures 1 2 3 4

Mathematical Relationships 1 2 3 4

Summary/Justification/Evidence</td></tr>
<tr><td>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</td></tr>
<tr><td>Overall Rating

1 2 3 4</td></tr>
</table>

Recursion

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 15. Develop and apply connections between Pascal's Triangle and combinations. **Indicate the chapter(s), sections, 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

Networks

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 16. Use vertex and edge graphs to model mathematical situations involving networks. a. Identify properties of simple graphs, complete graphs, bipartite graphs, complete bipartite graphs, and trees. **Indicate the chapter(s), sections, 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

Networks

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 17. Solve problems involving networks through investigation and application of existence and nonexistence of Euler paths, Euler circuits, Hamilton paths, and Hamilton circuits. *Note: Real-world contexts modeled by graphs may include roads or communication networks.* *Example: show why a 5x5 grid has no Hamilton circuit.* a. Develop optimal solutions of application-based problems using existing and student-created algorithms. b. Give an argument for graph properties. *Example: Explain why a graph has a Euler cycle if and only if the graph is connected and every vertex has even degree. Show that any tree with n vertices has n – 1 edges.*	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary/Justification/Evidence**
Indicate the chapter(s), sections, and/or page(s) reviewed.	**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

Networks

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 18. Apply algorithms relating to minimum weight spanning trees, networks, flows, and Steiner trees. *Example: traveling salesman problem* a. Use shortest path techniques to find optimal shipping routes. b. Show that every connected graph has a minimal spanning tree. c. Use Kruskal's Algorithm and Prim's Algorithm to determine the minimal spanning tree of a weighted graph. **Indicate the chapter(s), sections, 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**
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	Overall Rating 1 2 3 4

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 19. Use vertex-coloring, edge-coloring, and matching techniques to solve application-based problems involving conflict. *Examples: Use graph-coloring techniques to color a map of the western states of the United States so that no adjacent states are the same color, determining the minimum number of colors needed and why no fewer colors may be used; use vertex colorings to determine the minimum number of zoo enclosures needed to house ten animals given their cohabitation constraints; use vertex colorings to develop a time table for scenarios such as scheduling club meetings or for housing hazardous chemicals that cannot all be safely stored together in warehouses.* **Indicate the chapter(s), sections, 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

Networks

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 20. Determine the minimum time to complete a project using algorithms to schedule tasks in order, including critical path analysis, the list-processing algorithm, and student-created algorithms. **Indicate the chapter(s), sections, 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

Networks

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 21. Use the adjacency matrix of a graph to determine the number of walks of length n in a graph. **Indicate the chapter(s), sections, 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

Fairness and Democracy

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 22. Analyze advantages and disadvantages of different types of ballot voting systems. a. Identify impacts of using a preferential ballot voting system and compare it to single candidate voting and other voting systems. b. Analyze the impact of legal and cultural features of political systems on the mathematical aspects of elections. *Examples: mathematical disadvantages of third parties, the cost of run-off elections* **Indicate the chapter(s), sections, 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

Fairness and Democracy

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 23. Apply a variety of methods for determining a winner using a preferential ballot voting system, including plurality, majority, run-off with majority, sequential run-off with majority, Board count, pairwise comparison, Condorcet, and approval voting. **Indicate the chapter(s), sections, 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

Fairness and Democracy

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 24. Identify issues of fairness for different methods of determining a winner using a preferential voting ballot and other voting systems and identify paradoxes that can result. *Example: Arrow's Theorem* **Indicate the chapter(s), sections, 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

Fairness and Democracy

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 25. Use methods of weighted voting and identify issues of fairness related to weighted voting. *Example: determine the power of voting bodies using the Banzhaf power index* a. Distinguish between weight and power in voting. **Indicate the chapter(s), sections, 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

Fair Division

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 26. Explain and apply mathematical aspects of fair division, with respect to classic problems of apportionment, cake cutting, and estate division. Include applications in other contexts and modern situations. **Indicate the chapter(s), sections, 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

Fair Division

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 27. Identify and apply historic methods of apportionment for voting districts including Hamilton, Jefferson, Adams, Webster, and Huntington-Hill. Identify issues of fairness and paradoxes that may result from methods. *Examples: the Alabama paradox, population paradox* **Indicate the chapter(s), sections, 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

Fair Division

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 28. Use spreadsheets to examine apportionment methods in large problems. *Example: apportion the 435 seats in the U.S. House of Representatives using historically applied methods* **Indicate the chapter(s), sections, 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

Information Processing

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 29. Critically analyze issues related to information processing including accuracy, efficiency, and security. **Indicate the chapter(s), sections, 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

Information Processing

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 30. Apply ciphers (encryption and decryption algorithms) and cryptosystems for encrypting and decrypting including symmetric-key or public-key systems. a. Use modular arithmetic to apply RSA (Rivest-Shamir-Adleman) public-key cryptosystems. b. Use matrices and their inverses to encode and decode messages. **Indicate the chapter(s), sections, 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

Information Processing

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 31. Apply error-detecting codes and error-correcting codes to determine accuracy of information processing. **Indicate the chapter(s), sections, 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

Information Processing

	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
Students will: 32. Apply methods of data compression. *Example: Huffman codes* **Indicate the chapter(s), sections, 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

TEXTBOOK REVIEW FORM – MATHEMATICS – ADDITIONAL CRITIERIA AND INDICATORS

Documenting Alignment to
Additional Criteria and Indicators

Content

Criteria and Indicators	**Summary and documentation of how the additional criteria and indicators are met. Cite examples from the materials.**
1. Content is designed for students of varied abilities and understanding.	**Overall Rating** 1 2 3 4
2. Content is free of bias and/or controversial information.	**Overall Rating** 1 2 3 4
3. Content includes strategies for vocabulary instruction and graphic organizers.	**Overall Rating** 1 2 3 4
4. Content includes assignments that encourage integration of other content areas to support a math concept/skill.	**Overall Rating** 1 2 3 4
Indicate the chapter(s), sections, and/or page(s) reviewed.	**Summary/Justification/Evidence:**

TEXTBOOK REVIEW FORM – MATHEMATICS – ADDITIONAL CRITIERIA AND INDICATORS

Documenting Alignment to
Additional Criteria and Indicators

Technology

Criteria and Indicators	**Summary and documentation of how the additional criteria and indicators are met. Cite examples from the materials.**
1. Technology support and suggestions for appropriate use of multimedia resources are provided.	**Overall Rating** 1 2 3 4
2. Technology is integrated with student activities so that students collect, organize, analyze, and present data.	**Overall Rating** 1 2 3 4
3. Textbook and supplemental Contents are available online and/or on CD-ROM.	**Overall Rating** 1 2 3 4
Indicate the chapter(s), sections, and/or page(s) reviewed.	**Summary/Justification/Evidence:**

TEXTBOOK REVIEW FORM – MATHEMATICS – ADDITIONAL CRITIERIA AND INDICATORS

Documenting Alignment to
Additional Criteria and Indicators

Assessment

Criteria and Indicators	**Summary and documentation of how the additional criteria and indicators are met. Cite examples from the materials.**
1. Some assessments are designed to measure student understanding above the knowledge level.	**Overall Rating** 1 2 3 4
2. Guidance is provided to teacher regarding how assessment information can be used to inform instruction.	**Overall Rating** 1 2 3 4
3. Rubrics are provided for grading some assignments.	**Overall Rating** 1 2 3 4
4. Some opportunities are provided for students to check their own understanding.	**Overall Rating** 1 2 3 4
Indicate the chapter(s), sections, and/or page(s) reviewed.	**Summary/Justification/Evidence:**

TEXTBOOK REVIEW FORM – MATHEMATICS – ADDITIONAL CRITIERIA AND INDICATORS

Documenting Alignment to
Additional Criteria and Indicators

Assessment (Continued)

Criteria and Indicators	**Summary and documentation of how the additional criteria and indicators are met. Cite examples from the materials.**
5. Assessment activities examine the extent to which students can apply information to situations that require reasoning and creative thinking.	**Overall Rating** 1 2 3 4
6. Multiple means of assessments are used, informal as well as formal.	**Overall Rating** 1 2 3 4
7. Conceptual understanding and procedural knowledge are frequently assessed through tasks that ask students to apply information about a given concept in novel situations.	**Overall Rating** 1 2 3 4
Indicate the chapter(s), sections, and/or page(s) reviewed.	**Summary/Justification/Evidence:**

TEXTBOOK REVIEW FORM – MATHEMATICS – ADDITIONAL CRITIERIA AND INDICATORS

Documenting Alignment to
Additional Criteria and Indicators

Instruction

Criteria and Indicators	**Summary and documentation of how the additional criteria and indicators are met. Cite examples from the materials.**
1. Teacher guide provides suggestions for how to demonstrate/model skills or use of knowledge.	**Overall Rating** 1 2 3 4
2. Teacher guide offers alternative instructional strategies for advanced learners, struggling learners, ELL and Sp. Ed.	**Overall Rating** 1 2 3 4
3. Teacher guide suggests multiple opportunities for students to demonstrate understanding.	**Overall Rating** 1 2 3 4
4. Teacher guide provides opportunities for guided practice and scaffolded support.	**Overall Rating** 1 2 3 4
5. Teacher guide includes suggestions to diagnose student errors, explanations of how these errors may be corrected, and how to further develop student ideas.	**Overall Rating** 1 2 3 4
Indicate the chapter(s), sections, and/or page(s) reviewed.	**Summary/Justification/Evidence:**