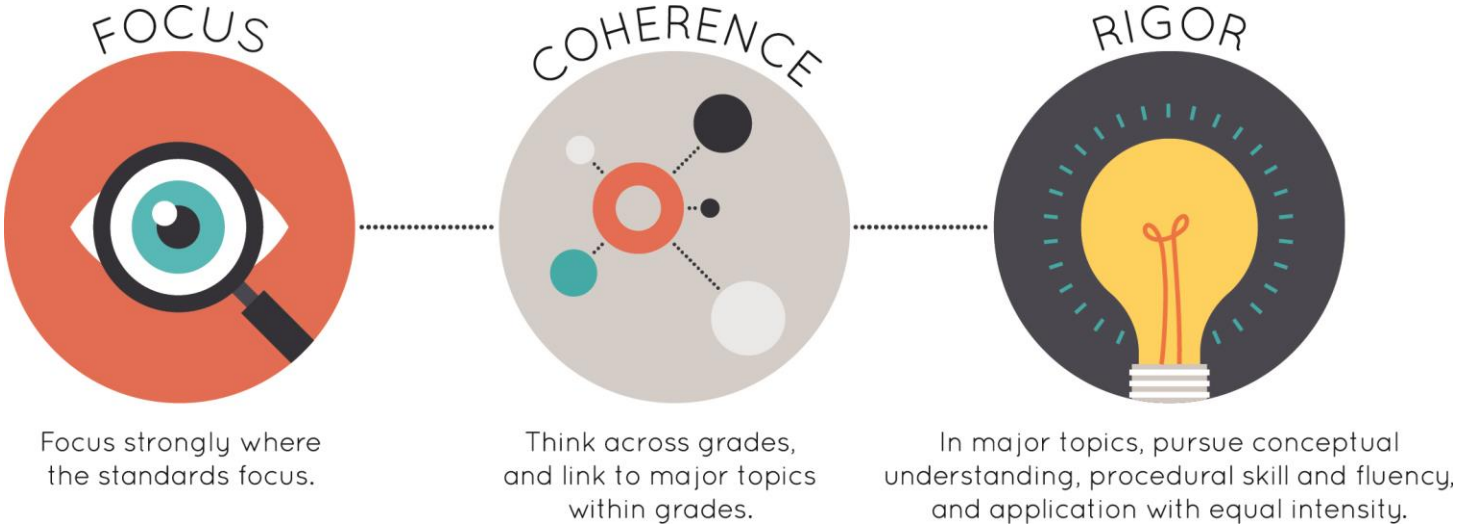
DEPARTMENT of EDUCATION
Louisiana Believes

Instructional Materials Evaluation Tool for Alignment in Mathematics Grades K – 12 (IMET)

FULL CURRICULUM
Instructional Materials

Strong mathematics instruction contains the following elements:



Title: **Illustrative Math**

Grade/Course: **Algebra I, Geometry, and Algebra II**

Publisher: **McGraw Hill**

Copyright: **2021**

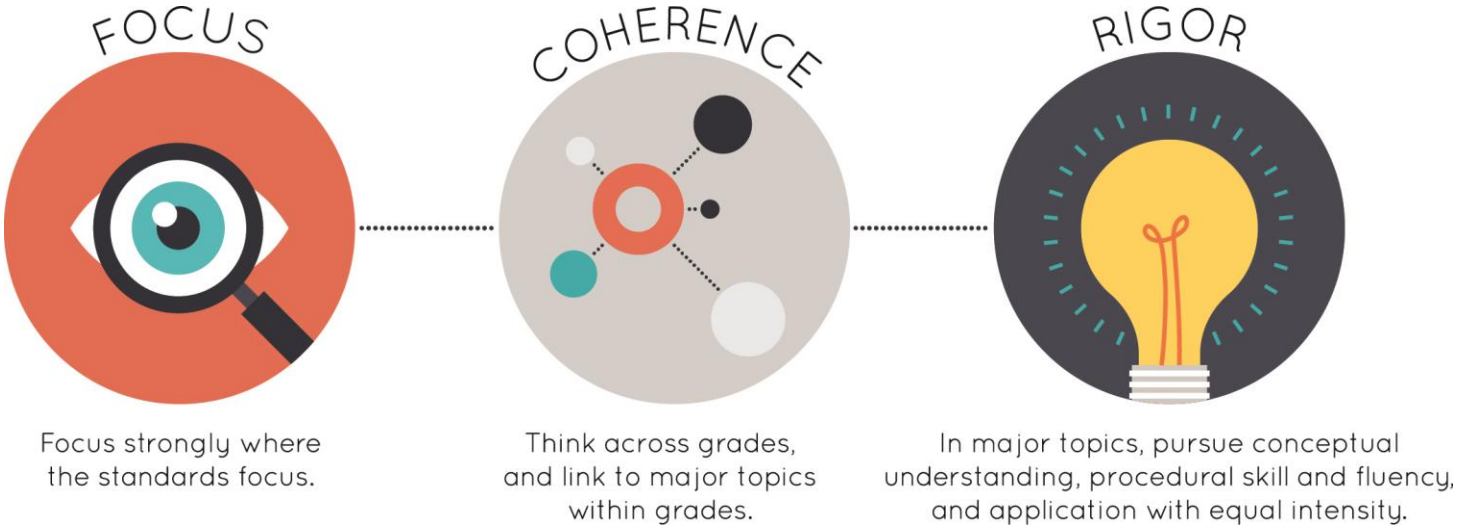
Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Alignment Criteria for Standards for Mathematical Practice	
7. Indicators of Quality	

Grade 9 (Tier I) Grade 10 (Tier I) Grade 11 (Tier I)

Strong mathematics instruction contains the following elements:



Title: **Illustrative Math**

Grade/Course: **Algebra I**

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2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Quality of Assessments	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality: Materials must meet Non-negotiable Criteria 1 and 2 for the review to continue to Non-negotiable Criteria 3 and 4. Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials devote the **majority** of class time to the major work of each grade/course.	**Yes**	The materials devote a large majority of the time to the major work of the grade. Of the 132 lessons, 73% are devoted to the major work of the grade. Of the 132 lessons, 28% focus on major standards alone and 45% utilize focus on a combination of major and supporting/additional standards.
	Required **1b)** Instructional materials, including assessments, spend minimal time on content outside of the appropriate grade/course **during core math instruction**. Content beyond grade/course-level should be clearly labeled as optional.	**Yes**	The materials spend the appropriate amount of time on course-level work while assessing course-level standards. There are no chapter tests, unit tests, or other assessments that make students or teachers responsible for any topics before the course in which they are introduced. A minimum amount of previous content is used to scaffold instruction. Mid- and End-of-Unit assessments assess major standards that are addressed within the lessons. For example, Unit 2, End-of-Unit Assessment, Items 3, 4, and 5 align to major LSSM A.REI.D.12. This standard is addressed in Unit 2, Lessons 22 - 26. In Unit 5, End-of-Unit Assessment, Items 1, 2, 3, and 5 assess major LSSM A.SSE.A.1. This standard is addressed during Lessons 4, 7, 17, and 18. In addition, lessons which include supporting content are clearly

[2] For more on the major work of the grade, see Focus by Grade Level.
[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

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			marked and standards from previous grades are used to scaffold course-level standards. For example, the warm up problem for Unit 2, Lesson 19, builds on the Grade 7 LSSM 7.EE.B.4b while the remaining problems address major work of the grade (LSSM A.REI.B.3 and A.CED.A.1). In Unit 1, Lesson 5, finding median and/or mean and interquartile range (LSSM 6.SP.B.5) is reviewed to teach comparing measures of central tendencies of different data sets (LSSM S.ID.A.2).
Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and consistent with the content in the Standards. ☒ Yes ☐ No	**Required** **2a)** Materials connect **supporting content to major content** in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	The materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. Multiple lessons which contain supporting content also contain and connect to major work of the grade. In Unit 3, Lesson 4, students determine the line of best fit for data in context (supporting LSSM S.ID.B.6) and interpret the slope and y-intercept (major LSSM S.ID.C.7). In Unit 4, Lesson 12, students graph piecewise functions in Activity 12.3 (supporting LSSM F.IF.C.7b) and, in Activity 12.4, students graph from key features (supporting F.IF.C.7). This supporting content is taught after Activity 12.2 which addresses the major content of relating the domain of a function to its graph (major LSSM F.IF.B.5) and evaluating in function notation (major LSSM F.IF.A.2). In Unit 5, Lesson 4, Activity 4.3, standards are interwoven creating direct connections. Students engage in the work

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			of supporting standards by writing functions (LSSM F.BF.A.1) and interpreting parameters (LSSM F.LE.B.5) leading to the major work of creating equations in two variables (LSSM A.CED.A.2). In Unit 6, Lesson 14, students interpret statements that use function notation in terms of a context, interpret key features of a function, and graph functions, connecting supporting LSSM F.IF.C.7 to major LSSM F.IF.A.2 and F.IF.B.4.
	Required **2b)** Materials include problems and activities that serve to connect two or more **clusters in a domain**, or two or more **domains in a grade/course**, in cases where these connections are natural and important.	**Yes**	The materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the course-level where these connections are natural and important. Materials are coherent and consistent with multiple opportunities for students to engage in problems and activities involving two or more clusters in a domain, or two or more domains in a course. For example, in Unit 2, Lesson 26, students work within the context of trail mix to represent constraints (LSSM A.CED.A.3), describe quantities for descriptive purposes (LSSM N.Q.A.3), and graph inequalities (LSSM A.REI.D.12). In Unit 6, Lesson 7, students relate the domain of a quadratic function to its graph (LSSM F.IF.B.5), write a function that describes a relationship from a table (LSSM F.BF.A.1), and graph quadratic functions (LSSM F.IF.C.7). In Unit 5, Lesson 21, Activity 21.2, clusters and domains are connected. In the lesson, students determine what type of model

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			could be used (LSSM F.LE.A.1), write functions (LSSM F.LE.A.2), and use a model to predict population (LSSM S.ID.B.6a). These connections are continued in the discussion for Activity 21.3 which includes millions being an appropriate measure for population (LSSM N.Q.A.3). In Unit 6, Lesson 17, Activity 17.2, students write quadratic functions (Cluster F.BF.A) and analyze the effects on the equation of the graph being altered (Cluster F.BF.B).
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	**Required** **3a)** ***Attention to Conceptual Understanding:*** Materials **develop conceptual understanding of key mathematical concepts,** especially where called for explicitly in specific content standards or cluster headings by featuring high-quality conceptual problems and discussion questions.	**Yes**	The materials develop the conceptual understanding of key mathematical concepts. Throughout the materials, standards written at a conceptual level of rigor are addressed in a manner that builds conceptual understanding. For example, in Unit 2, Lesson 13, Activity 13.1, students determine which system could match a graphical representation and explain how they know (LSSM A.REI.D.10). The explanation portion of this example ensures that students understand mathematical topics and address the standards conceptually in accordance with the rigor document. In Unit 3, Lesson 8, LSSM S.ID.C.7, S.ID.C.8, and S.ID.C.9 are addressed conceptually as students interpret the line of best fit and correlation coefficients within the context of problems. In Unit 5, Lesson 7, students interpret parts of an equation in relation to the amount of medicine ingested by a person (LSSM A.SSE.A.1a). Lessons have built-in activities to develop conceptual

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			understanding through discussion prompts and scaffolding questions. For example, in Unit 7, Lessons 21, Activities 21.2 and 21.3, students experiment with adding and multiplying rational and irrational numbers to determine if sums and products are rational or irrational. These cases are then analyzed using variables and given an explanation of what makes a sum or product rational or irrational as students are asked to explain how they know if the sum or product is rational or irrational (LSSM N.RN.B.3).
	Required **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students **attain the fluencies and procedural skills** required by the content standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.	**Yes**	The materials are designed so that students attain the fluencies and procedural skills required by the standards. Sufficient practice with algebraic operations provides students with the foundation for later work in Algebra. For example, in Unit 2, Lesson 8, Practice #1, students solve an equation for a certain variable and then substitute values into the equations and in Unit 2, Lesson 8, Practice #2, students solve an equation for x and then solve the same equation for y (LSSM A.CED.A.4). In Unit 2, Lesson 9, Activities 9.2, 9.3, and 9.4 present the opportunity for students to build fluency and procedural skill for LSSM A.CED.A.4. In Unit 3, Lesson 7, students compute the correlation coefficient (LSSM S.ID.C.8). In Unit 6, Lesson 13, students identify the effect on a graph by replacing F(x) with F(x+k) (LSSM F.BF.B.3). Procedural skill and fluency for LSSM

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			A.CED.A.4 is also addressed in Unit 4, Lesson 16. In Unit 5, Lesson 18, Practice #1, students determine the associated growth factor for 7 given growth rates, procedurally practicing transforming expressions for exponential functions (LSSM A.SSE.B.3c). In Unit 7, Lesson 4, students solve various types of equations including using the Zero Product Property to solve quadratics (LSSM A.REI.B.3).
	Required **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with **engaging applications**, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content standards where expectations for multi-step and real-world problems are explicit.	**Yes**	The materials are designed so that students spend sufficient time working with engaging applications. For standards that require application as a type of rigor, the activities include contextual problems. In Unit 2, Lesson 22, students represent constraints, solve, graph, and apply linear inequalities to real world situations such as purchasing concert tickets and opening banking accounts (LSSM A.CED.A.3, A.REI.D.10, and A.REI.D.12). In Unit 3, Lesson 4, Activity 4.2, students create a data set from a given video of a real life situation, graph the data set, determine a line of best fit for the data set, and use the line of best fit to predict information from the model (LSSM S.ID.B.6a). In Unit 4, Lesson 18, Warm Up, students complete multi-step problems relating knowledge and concepts of functions to cell phone battery life (LSSM S.ID.B.6, F.IF.B.6, F.BF.A.1, and S.ID.B.6a). In Unit 7, Lesson 17, Activity 17.3, students are given an equation and picture frame and must explain how the equation represents the

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			picture frame. Students are then given a written situation and must write an equation from the context (LSSM A.CED.A.1).
	Required **3d)** ***Balance:*** The three aspects of **rigor** are not always treated together and are not always treated separately.	**Yes**	It is evident within the materials that the three aspects of rigor are not always treated together and are not always treated separately. Lessons contain problems utilizing combinations of different types of rigor and also problems solely focusing on one component of rigor at a time. Most lessons in the materials provide opportunities for students to demonstrate procedural fluency and conceptual understanding in the context of application to real world situations. For example, in Unit 2, Lesson 3, Activity 3.2, students describe relationships in tables and then conceptually match each table to its equation (LSSM A.CED.A.2). In Unit 3, Lesson 2, Activity 2.2, students interpret relative frequencies (conceptual understanding) in terms of the types of people who have cats and dogs (application) while calculating various percentages (procedural) (LSSM S.ID.B.5). In Unit 3, Lesson 7, Activity 7.3, students conceptually compare correlation coefficients and procedurally use technology to determine the line of best fit (LSSM S.ID.B.6). In Unit 5, Lesson 16, students use conceptual understanding to estimate the solution to exponential equations (LSSM F.BF.A.1). In Unit 7, Lesson 1, tasks 1.2 and 1.3 students apply

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			conceptual understanding and procedural skill and fluency to a context of creating a picture frame of various proportions addressing LSSM A.CED.A.3 and A.CED.A.1.
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Aligned materials make meaningful and purposeful connections that promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. Materials address the practice standards in a way to enrich and strengthen the focus of the content standards instead of detracting from them. ☒ Yes ☐ No	**Required** **4a)** Materials attend to the **full meaning of the practice standards**. Each practice standard is connected to grade/course-level content in a meaningful way and is present throughout the year in assignments, activities, and/or problems.	**Yes**	The materials attend to the full meaning of each practice standard. Math practice standards are aligned to the content standards and are present in various forms to develop habits of mind described in the practice standards. Practice standards are explicitly pointed out in teacher materials. For example, in Unit 1, Lesson 3, LSSM S.ID.A.1 and S.ID.A.2 are addressed and included in the teacher notes as, "When students create and interpret a data display, they are reasoning abstractly and quantitatively (MP.2) because they are creating a display and interpreting the meaning of the quantities in the display. Additionally, students make use of structure (MP.7) to notice differences in distributions with the same shape, but different centers. In Unit 2, Lesson 1, students plan a pizza party, determine variables and constraints, and determine an estimated cost utilizing MP.4 (Model with Mathematics) by applying math to solve an everyday problem. In Unit 3, Lesson 4, "Students reason abstractly by making sense of slope and intercept in context (MP.2)" while addressing LSSM S.ID.B.6 and S.ID.C.7. In Unit 4, lesson 16, students examine the structure of equations to isolate specific variables to determine the inverse (LSSM A.CED.A.4).

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			Material guidance clarifies, "To do so, students need to analyze the structure of one equation, use it to reverse the process that defines the function, and see if the reversal leads to the other equation (MP.7)". In Unit 7, Lesson 3, students solve quadratic equations (LSSM A.REI.B.4) using any method. Material guidance states, "Students' approaches likely vary in efficiency and effectiveness" and "Students who use technology to solve the equations engage in choosing tools strategically (MP.5)." In addition, in Unit 7, Lesson 11, students utilize MP.7 to find structure and solve the equations. Although equations become increasingly more difficult, students can continue to find the structure of expressions being squared.
	Required **4b)** Materials provide sufficient opportunities for students to **construct viable arguments and critique the arguments of others** concerning key grade/course-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving as a form of argument, attending thoroughly to places in the standards that explicitly set expectations for multi-step problems.	**Yes**	The materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key course-level mathematics that is detailed in the content standards. Throughout the course, students critique the reasoning of other students. Students often construct viable arguments to explain their reasoning. For example, in Unit 2, Lesson 7, Activity 7.2, students must explain "acceptable moves" to their partner used in solving equations and what makes them acceptable. The partner must listen to and critique their partner's explanation of their moves. In Unit 3, Lesson 7, students work

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			with correlation coefficient (LSSM S.ID.C.8) to critique the reasoning of others. Materials state, "Tell students that for each scatter plot, one partner finds the associated correlation coefficient and explains why they think it goes with that scatter plot. The other partner's job is to listen and make sure they agree. If they don't agree, the partners discuss until they come to an agreement." In Unit 5, Lesson 6, students explain their reasoning and critique their peers to complete a card sort to match descriptions to graphs (LSSM F.IF.B.4). In Unit 6, Lesson 7, Activity 7.1, students in groups determine which graph does not belong. There is not one right answer, but students must defend why they chose a certain graph for being different than the others.
	Required **4c)** Materials explicitly attend to the **specialized language** of mathematics.	**Yes**	The materials explicitly attend to the specialized language of mathematics. Materials use accurate mathematical terminology and point out vocabulary throughout the materials. For example, in Unit 1, Lesson 4, students complete Activity 1 by determining which distribution set does not belong. Students explain their choice within small groups and to the entire class. The teacher then refines their informal vocabulary by introducing precise math vocabulary, which is continuously used throughout discussion portions of the lesson. In Unit 1, Lesson 12, the Lesson Narrative provides a definition for standard deviation and

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			shows glossary entries. This definition is reinforced throughout the activities of the lesson and provided once again in the student Lesson Summary. Also, in Unit 4, Lesson 1, Activities 1.2 and 1.3, students describe relationships using the language of function, independent variable, and dependent variable. In Unit 4, Lesson 4, materials instruct teachers to help students attend to precision by using precise language, as evidenced in the following guidance: "When students articulate what they notice and wonder, they have an opportunity to attend to precision in the language they use to describe what they see (MP.6). They might first use less formal or imprecise language, and then restate their observation with more precise language in order to communicate more clearly." In Unit 6, Lesson 2, the Activity Synthesis for Activity 2.3 defines the terms quadratic, quadratic relationship, and quadratic expression and explains the difference between a quadratic relationship and a linear relationship.
	4d) There are teacher-directed materials that **explain the role of the practice standards** in the classroom and in students' mathematical development.	**No**	The materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. The materials do not provide full explanations for the teacher concerning the math practices, but rather there are brief explanations of math practices for each lesson. The practice

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			standards are identified within the material alongside a brief description of where and how the math practice is addressed within the material. For example, in Unit 2 Lesson 13, "Students practice looking for and making use of structure as they identify the variables or expressions to substitute and ways to perform substitutions efficiently (MP.7)." In Unit 3, Lesson 1, the Lesson Narrative states, "In the Information Gap activity, students must make sense of problems and persevere in solving them (MP.1) and attend to the precision of their language (MP.6) to ask appropriate questions of their peers." In Unit 5, Lesson 7, "Making graphing technology available gives students an opportunity to choose appropriate tools strategically (MP.5)." In Unit 6, Lesson 13, the Lesson Narrative states, "Students also practice writing expressions that produce particular graphs. To do so, students make use of the structure in quadratic expressions (MP.7) and what they learned about the connections between expressions and graphs."
Section II: Additional Alignment Criteria and Indicators of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across	**Required** **5a)** Materials provide all students **extensive work** with grade/course-level problems.	**Yes**	The materials provide all students extensive work with course-level problems. The review of material from previous grades and courses is clearly identified, and those lessons which address previous grade level standards are

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grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No			identified as optional. Each lesson includes 4-5 activities that give students rich tasks and various stimuli to engage with through discussion prompts and related questions to answer. Each lesson then includes 4-10 practice problems (some problems have multiple parts within them), some directly pertaining to the lesson and others being spiral review. In Unit 1, Lesson 5, Activities 5.1 and 5.2, students review LSSM 6.SP.B.5.c (giving measures of center and variability and describing patterns within data set) as "building on" this standard to address LSSM S.ID.A.2, which occurs in Activity 5.3 where students are first asked to find the mean absolute deviation. This lesson is labeled as optional because it revisits below grade level content but is used to prepare students for upcoming work addressing LSSM S.ID.A.1 and S.ID.A.1. In Unit 2, Lesson 20, students write and solve inequalities while working with major LSSM A.CED.A.1, A.CED.A.3, and A.REI.B.3. At the end of the lesson, students complete 10 practice problems, many of which include multiple parts, that address the course-level content and standards presented in the lesson.
	Required **5b)** Materials **relate grade/course-level concepts explicitly to prior knowledge** from earlier grades and courses. The materials are designed so that prior knowledge is extended to accommodate the new knowledge, building to core instruction, on	**Yes**	The materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. Materials connect prior knowledge from earlier grades in a purposeful manner. The materials weave prior knowledge students should have from previous courses into lessons for this

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	grade/course-level work. Lessons are appropriately **structured and scaffolded** to support student mastery.		course so connections can be made and knowledge gained in earlier courses can be extended upon. For example, in Unit 1, Lesson 5, students calculate mean absolute deviation, interquartile range, mean, and median for a set of data by building on LSSM 6.SP.B.5.c and 7.SP.B.3 to address LSSM S.ID.A.2. In Unit 2, Lesson 2, Activity 2.1 builds on a Grade 6 standard (LSSM 6.RP.A.3.c) while the rest of the activities in that lesson address major standard LSSM A.CED.A.2 and A.CED.A.3. The teacher materials state, "The strategies elicited here will be helpful later in the lesson when students calculate prices that involve a percent increase and write an equation to generalize the calculation," which occurs in Activity 2.4. In Unit 4, Lesson 1, students' knowledge of functions having exactly one output for every input is "reactivated" (LSSM 8.F.A.1). Students are reminded of this knowledge that will be used in later portions of the unit (LSSM F.IF.A.1). The teacher materials state, "The goal of this opening activity is to activate, through a familiar context, what students know about functions from middle school." In Unit 6, Lesson 4, students explain using graphs, tables, or calculations that exponential functions eventually grow faster than quadratic functions by building on LSSM 6.EE.A.1 to address LSSM F.BF.A.1.a, F.IF.C, and F.LE.A.3.

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	Required **5c)** There is **variety** in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade/course-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	Students are asked to produce answers in a variety of ways. Students produce answers, solutions, arguments, explanations, diagrams, and various mathematical models. In Unit 2, Lesson 5, Activity 5.3 students produce values, interpolated data points, an equation, a graph, and extrapolated data points, all in one task. Also, in Unit 2, Lesson 18, Activity 18.2, students translate inequalities written in words into mathematical expressions. In Activity 18.3, students trade their responses and explain to each other what they think their partner's statements mean while making adjustments based on the critiques their partner gives them. In Unit 4, Lesson 18, Activity 18.2, students share predictions and explanations of a cell phone battery life table and also compare their strategies with strategies of other students. In Unit 4, Lesson 10, students solve a card sort, tables, graphs, and problems related to domain and range. In Unit 7, Lesson 2, students solve quadratic equations using a variety of methods.
	5d) Support for **English Language Learners and other special populations** is provided. The language in which problems are posed is not an obstacle to understanding the content, and if it is, additional supports (suggestions for modifications, "vocabulary to preview", etc.,) are included.	**Yes**	The materials include support for English Language Learners and other special populations to help them meet the same standards as other students. However, these supports are not provided for every lesson. One example of support for English Language Learners is found in Unit 1, Lesson 4, Speaking, Listening: MLR 7 Compare and Connect where students are

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			asked to prepare a visual display of their sorted cards. As students investigate each other's work, teachers are to ask students to share "what worked well in a particular approach. Listen for and amplify any comments about the use of the words symmetric, skewed, bimodal, bell-shaped, and uniform to compare the two different displays." In Unit 3, Lesson 5, Activity 5.2, a "support for English Language Learners" and "support for Students with Disabilities" box provides the teacher with ways to adjust the activity for those groups. In Unit 6, Lesson 8, the support for Students with Disabilities states, "Representation: Internalize Comprehension. Activate or supply background knowledge. Some students may benefit from additional support to learn how to draw appropriate diagrams. Consider providing access to some blank, or partially completed diagrams to start with." In Unit 6, Lesson 14, there are supports for English Language Learners in Activities 14.2, 14.3, and 14.4 and supports for Students with Disabilities in Activities 14.2 and 14.4. In Unit 7, Lesson 1, Activity 1.2, a routine is explained for a teacher to allow an ELL student to see other groups' "frames" to compare, and after the student is given quiet time to think, have them vocalize comparisons and contrasts.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
6. QUALITY OF ASSESSMENTS: Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed grade-specific Louisiana Student Standards for Mathematics. ☒ Yes ☐ No	**Required** **6a)** Multiple **assessment opportunities** are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in materials.	**Yes**	Multiple assessment opportunities are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in materials. In each unit, there are "Check Your Readiness" assessments and formal assessments such as Mid-Unit and End-of-Unit assessments. For example, the Mid-Unit assessment for Unit 4 includes questions aligned to clusters F.BF and F.IF, such as "A ball bounces several times after it is dropped. The graph shows the height of the ball over time. Height is measured in meters and time is measured in seconds. Select all statements that are true about the graph and the situation it represents." During the lessons, students are given the opportunity to demonstrate their knowledge through informal assessments. For example, in Unit 7, Lesson 2, students are given a movie theater model for revenue and asked "According to this model, how high would the ticket price have to be for the theater to make $0 in revenue? Explain your reasoning." (LSSM A.REI.B.4).
	Required **6b)** Assessment items include a **combination of tasks** that require students to demonstrate conceptual understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. Assessment items require students to produce answers and solutions, arguments, explanations, and models, in a grade/course-appropriate way.	**Yes**	Assessment items include a combination of tasks that require students to demonstrate conceptual understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. Mid-Unit and End-Of-Unit Assessments include a mixture of multiple choice questions and free response questions, some of which

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			are in real-world context. For example, in the End-Of-Unit Assessment for Unit 5, students are asked "A savings account earns 8% interest each year, compounded quarterly (4 times a year). If a person invests $100 and makes no further deposits or withdrawals, what is the balance in the account after 3 years?" (LSSM F.BF.A.1a, F.IF.A.2). In the End-Of-Unit Assessment for Unit 3, students answer "The purchasing habits of 1,000 grocery shoppers are noted. No association is found between the variables. Fill in the empty portion of the table with values that would support this claim. Explain your reasoning." (LSSM S.ID.B.5). Assessment items require students to produce answers and solutions, arguments, explanations, and models, in a course-appropriate way. For example, in the End-of-Unit Assessment for Unit 2: Linear Equations, Inequalities and Systems, students answer a multiple choice item about as solution to an inequality, select all that apply that include equations and inequalities that could describe the given situation, choose a graph that represents the solution to a system of inequalities, provide a short answer about a given graph, and answer two open-ended questions about an inequality in a real-world context.
	6c) Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide sufficient guidance for	**Yes**	Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, measurable, and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	interpreting student performance, misconceptions, and targeted support to engage in core instruction.		provide sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction. For example, the Unit 4 Mid-Unit Assessment Teacher Guide states reasons why students may have selected certain answers. Question 3 Item Analysis states students may have chosen A because they "may confuse vertical and horizontal intercepts." In the Teacher Guide for the End-of-Unit 1 Assessment, the rubric for question 7 includes sample responses for a Tier 1 answer. The Tier 2 level on the rubric states, "Work shows good conceptual understanding and mastery, with either minor errors or correct work with insufficient explanation or justification. Sample errors: One of parts a, b, or c is correct but not justified or incorrectly justified, one of parts a, b, or c is incorrect but explanation demonstrates a general understanding of the concept, explanation in part a does not refer to the shape of the distribution, work for part b has a minor mistake in the formula for determining outliers (with work shown), any incorrect answer to part d."
	6d) Materials provide 2-3 **comprehensive assessments** (interims/benchmarks) that measure student learning up to the point of administration.	**No**	Materials do not provide 2-3 comprehensive assessments (interims/benchmarks) that measure student learning up to the point of administration. Each unit features a "Check Your Readiness" and End-Of-Unit assessment. These assessments only

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			include content from the unit in which they are given and are not comprehensive.
7. ADDITIONAL INDICATORS OF QUALITY: Materials are well organized and provide teacher guidance for units and lessons. Materials provide timely supports to target specific skills/concepts to address students' unfinished learning in order to access grade-level work. ☒ Yes ☐ No	**Required** **7a)** The content can be **reasonably completed** within a regular school year and the pacing of content allows for maximum student understanding. The materials provide guidance about the amount of time a task might reasonably take.	**Yes**	The content can be reasonably completed within a regular school year and the pacing of content allows for maximum student understanding. The materials provide guidance about the amount of time a task might reasonably take. The Unit Planner for each Unit references the amount of time (in days) each lesson should take and includes the associated LSSM standards. The teacher guide to each lesson includes pacing time suggestions. For example, Unit 2, Lesson 6, Activity 6.3 should take 15 minutes while the Warm-Up should take 5 minutes. In addition, the Lesson Synthesis and Cool-Down in Unit 6, Lesson 4 should each take approximately 5 minutes.
	Required **7b)** The materials are **easy to use and well organized** for students and teachers. Teacher editions are concise and easy to manage with clear connections between teacher resources. Guidance is provided for lesson planning and instructional delivery, lesson flow, questions to help prompt student thinking, and expected student outcomes.	**Yes**	The materials are easy to use and well organized for students and teachers. Teacher editions are concise and easy to manage with clear connections between teacher resources. Guidance is provided for lesson planning and instructional delivery, lesson flow, questions to help prompt student thinking, and expected student outcomes. Each unit includes a Unit Overview which references Prior Work, Work in the Unit, Unit Planner with pacing guidelines, Required Materials, Analysis for Diagnostic Assessments, and a full length Teacher's Edition of the Unit which includes standards, solutions, and guidance on how to assist students. Each Unit Overview (Teacher's Edition) contains

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Prior Work, Work in the Unit, Unit Planner, Required Materials, and Pre-Unit Diagnostic Assessment analysis. Each Lesson Overview (Teacher's Edition) contains Teacher-Facing Goals, Student Goals, Learning Targets, Lesson Pacing, Lesson Narrative, Instructional Routines, Standards, an overview of each activity, a Launch, Activity Synthesis, Guidance for Special Populations, Anticipated Misconceptions, questions to prompt student thinking, and sample student responses. For example, the Unit 4, Lesson 1, Activity Synthesis, teacher guidance states "Focus the discussion on how students used the graph to help them answer the questions. Encourage students to use precise mathematical vocabulary in their explanation. Invite students, especially those who do not rely solely on the graph, to share their responses and reasoning."
	Required **7c)** Materials include unit and lesson **study tools for teachers**, including, but not limited to, an explanation of the mathematics of each unit and mathematical point of each lesson as it relates to the organizing concepts of the unit and discussion on student ways of thinking and anticipating a variety of student responses.	**Yes**	Materials include unit and lesson study tools for teachers. Materials provide an overview of the mathematics in each unit and how it relates to prior and future units in the narrative that is provided in the teacher materials. The Implementation Guide details how long each unit and lesson should take and also provides a chart on unit dependency. Instructional routines used throughout the material are described within each lesson. In each lesson, the first page of the lesson provides teachers an overview of the

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			lesson (Lesson Narrative), Learning Goals, Required Preparation, Learning Targets, Glossary Entries, and Standards. Each lesson contains instructions for each activity, student responses, activity synthesis, and anticipated misconceptions. The activity synthesis provides guiding questions that prompt student thinking and discussion of desired mathematical behaviors. Prompts are provided throughout the lessons to guide teachers in instruction. In the Course Guide, a narrative explains the organization of units and where connections should occur. For example, in Unit 3, Lesson 4, the student misconceptions are "Students may struggle with estimating a slope when the scale on the x and y axes are different. Ask students to find the coordinates for a couple of points on or near the line and find the slope between those points." In Unit 5, Lesson 2, teachers can access lesson notes that give directions, explanations, and discussion prompts for every activity, such as guiding discussion questions for students comparing and contrasting tables in Activity 2. In Unit 5, Lesson 14, directions are provided for the teacher to guide the activity, "Select previously identified students to share their expressions for each problem, in the same sequence as shown in the Activity Narrative. Help students make the connections between the different forms, clarifying them in terms of properties of

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			operations." Other guiding documents include teacher support for Design Principles, What is a "Problem-based Curriculum," A Typical IM Lesson, How to Use the Materials, Mathematical Modeling Prompts, Information for Families, Supporting English-Language Learners, Supporting Students with Disabilities, Diagnostic Assessments, Cool Downs, Summative Assessments, and Screencast Tutorials.
	7d) Materials **identify prerequisite skills and concepts** for the major work of the grade/course, connected to the current on-grade/course-level work.	**Yes**	Materials identify prerequisite skills and concepts for the major work of the course, connected to the current on-course-level work. Each unit includes a Check Your Readiness Assessment which assesses targeted pre-requisite skills prior to beginning on-level coursework. The Check Your Readiness Teacher's Guide includes an Item Description, the pre-requisite standard addressed in the problem, the first lesson in which the skill or concept appears, and suggestions for what to do if students struggle. For example, Unit 3, Check Your Readiness Teacher's Guide indicates that Question 3 assesses LSSM 8.SP.A.1 which is first encountered in Lesson 4. Guidance is provided that includes, "If most students struggle with this item... Plan to use Lesson 4 to demonstrate how to create a scatter plot and examine trends that may be present." Unit 5, Check Your Readiness Teacher's Guide, indicates that Question 2 assesses LSSM 6.EE.A.2.c which is first

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			encountered in Lesson 3. The item description includes possible reasons the students didn't find the correct solution, and then provides additional guidance if most students struggle with the item.
	7e) Materials provide guidance to help teachers **identify students** who need prerequisite work to engage successfully in core instruction, on-grade/course-level work.	**Yes**	Materials provide guidance to help teachers identify students who need prerequisite work to engage successfully in core instruction, on-course-level work. Each unit includes a Pre-Unit Diagnostic Assessment, also known as "Check Your Readiness" Assessment. The Pre-Unit Diagnostic Assessment analysis included in the Teacher's Edition Unit Overview often describes to teachers what to do if the majority of students do poorly on an assessment item. The teacher's guide includes solutions to questions, as well as suggestions for mistakes the students may have made and what to do if most students miss an item. For example, the Unit 5, Teacher Guide for the Diagnostic states for question 2, "Students answering 144 didn't recognize that they need to evaluate the exponent before the multiplication. Students answering 24 didn't recall the meaning of exponent notation. Students who wrote $4 \cdot 32$ substituted 2 for x but didn't evaluate the expression afterwards." The Unit 2, Teacher Guide states for question 3 "If most students struggle with this item...Plan to spend as much time as needed on each question in the Activity 10.2 synthesis, which covers both

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			conceptual and procedural aspects of graphing lines in detail."
	7f) Materials provide **targeted, aligned, prerequisite work** for the major work of the grade/course, directly connected to specific lessons and units in the curriculum.	**Yes**	Materials provide targeted, aligned, prerequisite work for the major work of the grade/course, directly connected to specific lessons and units in the curriculum. The materials include Algebra I Supports material which provide targeted and aligned prerequisite work for each lesson in the Algebra I curriculum. The materials are designed to support success in the lesson when encountered prior to the on-course level lesson. For example, Unit 1, Extra Support Lesson 1 states that "the mathematical purpose of this lesson is for students to remember how to create a box plot, and how to interpret data from an already constructed box plot. The work of this lesson connects to previous work done in Grade 6, when students learned how to construct and interpret box plots. In the associated lesson, students collect data that will be displayed in a box plot." The lesson builds upon LSSM 6.SP.B.4, while also addressing LSSM 2.NBT.B.5, and builds towards LSSM S.ID.A.1 and S.ID.A.1.
	7g) Materials provide **clear guidance and support** for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work.	**No**	Materials do not provide clear guidance and support for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work. Although the materials provide the Algebra I Supports material, there is no connection between the Check Your Readiness Assessments (which assess the pre-requisite standards

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			needed to access the on-course level content for the lesson) and the Algebra I Supports materials. The Check Your Readiness Teacher's Guide provides suggestions within the lesson "if most students struggle" with the items, but does not provide guidance on when to use the Algebra I Supports material. Although the Algebra I Supports materials are associated with a lesson in the Algebra I course and help students learn or recall a skill or concept needed to access course level material, guidance on how or when to incorporate the Algebra I Supports materials based on individual student need is not provided. Guidance is not clear if all students should engage in the Algebra I Supports materials or only those students with unfinished learning.

FINAL EVALUATION

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

Compile the results for Sections I and II to make a final decision for the material under review.

Section	Criteria	Yes/No	Final Justification/Comments
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	The materials devote the majority of the time to the major work of the grade. Materials spend the appropriate amount of time on course level work, while assessing course level standards.
	2. Consistent, Coherent Content	**Yes**	The materials connect supporting content to major content in meaningful ways so

[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			that focus and coherence are enhanced throughout the year. The problems and activities connect two or more clusters in a domain and/or two or more domains in the grade level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	The materials reflect the balance in the standards and help students meet all of the standards' rigorous expectations. In addition, the materials are designed so that students attain the fluencies and procedural skills required and spend sufficient time working with conceptual understanding and engaging applications.
	4. Focus and Coherence via Practice Standards	**Yes**	The materials address the practice standards in ways that enrich the content standards of the course. Materials attend to the full meaning of the practice standards. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key course-level mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.
II: Additional Alignment Criteria and Indicators of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	The materials foster focus and coherence by linking topics across domains and clusters and across grades/courses, staying

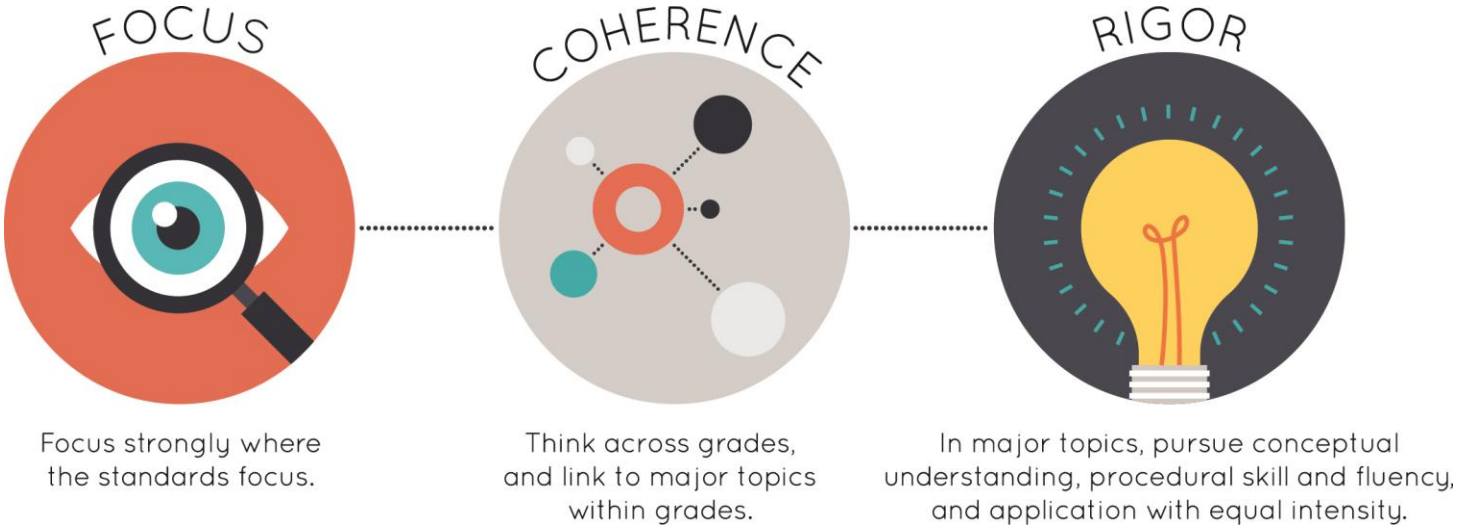
[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			consistent with the progressions within the standards. Materials provide all students extensive work with course-level problems. Review of material from previous grades and courses is clearly identified, and lessons which only address previous grade level standards are identified as optional. Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. Materials connect prior knowledge from earlier grades in a purposeful manner. In the materials, students are asked to produce answers in a variety of ways. Materials include support for English Language Learners and other special populations that is thoughtful and helps those students meet the same standards as all other students.
	6. Quality of Assessments	**Yes**	Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed grade-specific Louisiana Student Standards for Mathematics. Multiple assessment opportunities are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in the materials. Assessment items include a combination of tasks that require students to demonstrate conceptual understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			modeling in real world context. Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction. However, materials do not provide 2-3 comprehensive assessments (interims/benchmarks) that measure student learning up to the point of administration.
	7. Additional Indicators of Quality	**Yes**	Materials are well organized and provide teacher guidance for units and lessons. The content can be reasonably completed within a regular school year and the pacing of content allows for maximum student understanding. The materials are easy to use and well organized for students and teachers. Materials include unit and lesson study tools for teachers. Materials identify prerequisite skills and concepts for the major work of the course, connected to the current on-course-level work. Materials provide guidance to help teachers identify students who need prerequisite work to engage successfully in core instruction, on-course-level work. Materials provide targeted, aligned, prerequisite work for the major work of the grade/course, directly connected to specific lessons and units in the curriculum. However, materials do not provide clear guidance and support for teachers about the structures that allow

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			students to appropriately address unfinished learning using prerequisite work.
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Strong mathematics instruction contains the following elements:



Title: **Illustrative Math**

Grade/Course: **Geometry**

Publisher: **McGraw Hill**

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Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Quality of Assessments	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality: Materials must meet Non-negotiable Criteria 1 and 2 for the review to continue to Non-negotiable Criteria 3 and 4. Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials devote the **majority** of class time to the major work of each grade/course.	**Yes**	The materials devote a majority of time to the major work of the grade. Including the optional lessons and eight modeling prompts that address the major work of the grade, 65% are devoted to major standards for the grade. Specifically, 45% of the lessons focus on major standards alone, 20% of the lessons focus on a combination of major and supporting/additional standards, and 35% of the lessons focus on additional and/or supporting standards.
	Required **1b)** Instructional materials, including assessments, spend minimal time on content outside of the appropriate grade/course **during core math instruction**. Content beyond grade/course-level should be clearly labeled as optional.	**Yes**	The materials spend the appropriate amount of time on course-level work while assessing course-level standards. There are no chapter tests, unit tests, or other assessments that make students or teachers responsible for any topics before the course in which they are introduced. A minimum amount of previous content is used to scaffold instruction. Assessments align to appropriate on-level standards and assess standards taught in the unit. For example, Unit 2, End-of-Unit Assessment, Items 1 and 6 align to major LSSM G-CO.C.11. This standard is addressed in Unit 2, Lessons 4, 6, 7, and 9. In addition, lessons which include supporting content

[2] For more on the major work of the grade, see Focus by Grade Level.
[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			are clearly marked and standards from previous grades are used to scaffold course-level standards. For example, in Unit 1, Lesson 9, Activity 9.2, students analyze a model to determine which store is most responsible for a delivery location using perpendicular bisectors (LSSM G.CO.D.13). In the questions accompanying the activity, students are asked to analyze the accuracy of a model tying in previously learned Algebra I skills (LSSM N.Q.A.3). Also, in Unit 5, Lesson 4, Activity 4.2, students complete a table analyzing expressions and factors (LSSM A.SSE.A.1.a) used to develop a pattern relating scale factor and area (LSSM G.SRT.A.1.b).
Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and consistent with the content in the Standards. ☒ Yes ☐ No	**Required** **2a)** Materials connect **supporting content to major content** in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	The materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. Multiple lessons introduce supporting content within the context of major content using appropriate connections. For example, in Unit 3, Lesson 3, Activity 3.3, groups of students are given different scale factors to dilate a quadrilateral (supporting LSSM G.CO.A.2). Students then fill in a table to analyze side lengths of the pre-image versus image of the dilation (major LSSM G.SRT.A.1.b). Also, in Unit 6, Lesson 4, Activity 4.2, students analyze a given graph of a circle to determine if certain points are on the circle. Students must understand the definition of a point and circle (supporting

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			LSSM G.CO.A.1) and understand how to verify if a point is on the circle algebraically (major LSSM G.GPE.B.4).
	Required **2b)** Materials include problems and activities that serve to connect two or more **clusters in a domain**, or two or more **domains in a grade/course**, in cases where these connections are natural and important.	**Yes**	The materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the course-level where these connections are natural and important. Materials are coherent and consistent with multiple opportunities for students to engage in problems and activities involving two or more clusters in a domain, or two or more domains in a course. For example, in Unit 5, Lesson 14, students calculate the volume of pyramids and cones, then draw and label a base for a chocolate pyramid. These two tasks address and connect LSSM G.MG.A.3 and G.GMD.A.3 of the Geometric Measurement and Dimension (G-GMD) and Modeling with Geometry (G-GM) domains. In Unit 4, Lesson 10, Activity 10.2, students make informal arguments relating the perimeter of an inscribed polygon to the circumference of the circle in which it is inscribed (LSSM G.GMD.A.1). In order to complete the activity, students must use the trigonometric ratios to solve for missing side lengths of the triangle inside the polygons (Cluster G-SRT.C). The activity connects the Geometric Measurement and Dimensions (G-GMD) and the Similarity, Right Triangles, and Trigonometric (G-SRT) domains.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	**Required** **3a)** ***Attention to Conceptual Understanding:*** Materials **develop conceptual understanding of key mathematical concepts,** especially where called for explicitly in specific content standards or cluster headings by featuring high-quality conceptual problems and discussion questions.	**Yes**	The materials develop the conceptual understanding of key mathematical concepts. Throughout the materials, standards written at a conceptual level of rigor are addressed in a manner that builds conceptual understanding. Lessons include activities that develop conceptual understanding through discussion prompts and scaffolding questions. Several lessons require students to explain how they arrive at a solution or their rationale for using a certain method. For example, in Unit 3, Lesson 8, Activity 8.3, students prove a variety of statements such as "All circles are similar" (LSSM G.C.A.1). In Unit 7, Lesson 2, Activity 2.2, students use an applet to "Make a conjecture about the relationship between an inscribed angle and the central angle that defines the same arc" (LSSM G.C.A.2). In Unit 8, Lesson 8, Activity 8.2, students answer questions such as "If Event A is 'the card is black' and Event B is 'the card is a king,' does the equation hold? Explain or show your reasoning. If Event A is 'the card is a face card' and Event B is 'the card is a spade,' does the equation hold? Explain or show your reasoning." (LSSM S.CP.A.3).
	Required **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students **attain the fluencies and procedural skills** required by the content standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials	**Yes**	The materials are designed so that students attain the fluencies and procedural skills required by the standards. There is sufficient practice for standards that are written at a procedural level. For example, in Unit 1, Lesson 4, students "Use straightedge and compass

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.		moves to construct at least 2 equilateral triangles of different sizes" (LSSM G.CO.D.13). In Unit 6, Lesson 10, Activity 10.3, students graph lines on a coordinate plane and prove that those lines form a parallelogram (LSSM G.GPE.B.4). In Unit 6, Lesson 6, Activity 6.2, the Teacher Guide explains that "In this activity, students are introduced to completing the square for an equation of a circle. They look at a pre-written version of the first few steps, analyzing what was done and why. Then, they finish the process using skills from previous activities and determine the center and radius of the circle." (LSSM G.GPE.A.1).
	Required **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with **engaging applications**, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content standards where expectations for multi-step and real-world problems are explicit.	**Yes**	The materials are designed so that students spend sufficient time working with engaging applications. For standards that require application as a type of rigor, activities include contextual problems. In Unit 4, Lesson 10, Activity 10.3, students use right triangles to answer the following questions: "An airplane travels 150 miles horizontally during a decrease of 35,000 feet vertically. What is the angle of descent? How long is the plane's path?" (LSSM G.SRT.C.8). In Unit 5, Lesson 17, Activity 17.2, students are given the following problem: "The feathers in a pillow have a total mass of 59 grams. The pillow is in the shape of a rectangular prism measuring 51 cm by 66 cm by 7 cm. What is the density of feathers in kilograms per cubic meter?" (LSSM

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			G.MG.A.2) In Unit 4, Lesson 7, Activity 7.3, students must use trigonometric ratios to find the heights of buildings (LSSM G.SRT.8).
	Required **3d)** ***Balance:*** The three aspects of **rigor** are not always treated together and are not always treated separately.	**Yes**	It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately. Lessons provide opportunities for students to demonstrate procedural fluency and conceptual understanding in the context of application to real-world situations. The levels of rigor are intertwined throughout the materials. For example, in Unit 4, Lesson 9, Activity 9.3, students calculate the angles (procedural) of a leaning ladder, use trigonometry to determine if it is possible to adjust the ladder to a safe angle using specific criteria for a safe angle (application), and then explain their thinking (conceptual) (LSSM G.MG.A.3, G.SRT.C.8). In Unit 8, Lesson 9, Activity 9.2, students use two-way frequency tables to calculate probabilities (procedural) for a pharmaceutical company's new medicine (application) in order to determine whether the new medicine has an impact on symptoms (conceptual) (LSSM S.CP.A.4). In Unit 2, Lesson 1, Activity 1.3, students procedurally draw a triangle, find the midpoint, and rotate the triangle, and then conceptually make conjectures and justify them (LSSM G.CO.A.5).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Aligned materials make meaningful and purposeful connections that promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. Materials address the practice standards in a way to enrich and strengthen the focus of the content standards instead of detracting from them. ☒ Yes ☐ No	**Required** **4a)** Materials attend to the **full meaning of the practice standards**. Each practice standard is connected to grade/course-level content in a meaningful way and is present throughout the year in assignments, activities, and/or problems.	**Yes**	The materials attend to the full meaning of each practice standard. Math practice standards are aligned to the content standards and are present in various forms to develop habits of mind described in the practice standards. Practice standards are explicitly pointed out in the teaching materials. For example, in Unit 1, Lesson 15, students describe the reflections that take a figure onto itself (LSSM G.CO.A.3). The Lesson Narrative states, "Students make use of structure when they discuss which lines of symmetry apply to a type of shape generally, rather than limiting their thinking to a given example (MP.7)." In Unit 3, Lesson 15, students engage in an Info-Gap routine. The structure of this routine requires students to make sense of problems (MP.1) by determining what information is necessary and then ask for the information needed to solve it. Students then explain how they are using the information to solve the problem, and then both students solve the problem independently before coming together to discuss the problem. For example, in Activity 15.2, one problem card states, "Find the lengths of sides XY, PR, and QR. Do not round." The Data Card provides different pieces of data that may or may not be used to solve the problem (LSSM G.SRT.B.5). In Unit 6, Lesson 4, students repeatedly test whether points are on a circle by finding the distance between the points and the circle's center (LSSM

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			G.CO.A.1). The Lesson Narrative states, "As students carry out their testing, they look for and express regularity in repeated reasoning (MP.8), eventually writing a generalized equation for a circle." In Unit 7, Lesson 3, students use the relationship between tangent lines and radii to calculate angle measures and prove geometric theorems. The Lesson Narrative states, "Students use these findings to show that an angle circumscribed about a circle is supplementary to the central angle defined by the points where the angle is tangent to the circle. As students write an explanation of this property, they are reasoning abstractly and quantitatively (MP.2)." In Unit 8, Lesson 3, students create organized lists, tables, and tree diagrams and use them to calculate probabilities (LSSM S.CP.A.1). As students choose to use an organized list, table, or tree diagram to determine the sample space, they utilize MP.5 (Use appropriate tools strategically).
	Required **4b)** Materials provide sufficient opportunities for students to **construct viable arguments and critique the arguments of others** concerning key grade/course-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving as a form of argument, attending thoroughly to places in the standards that explicitly set expectations for multi-step problems.	**Yes**	The materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key course-level mathematics that is detailed in the content standards. Throughout the course, students critique the reasoning of other students. Students often construct viable arguments to explain their reasoning. For example, in Unit 6, Lesson 11, students prove that the slopes of

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			perpendicular lines are opposite reciprocals and use slopes of perpendicular lines to solve problems. During the lesson, students construct a viable argument by proving their conjecture is true for all lines (LSSM G.GPE.B.5). Specifically, Activity 11.3, states, "Students use transformation arguments to prove that the slopes of perpendicular lines that pass through the origin are opposite reciprocals. The proof is extended to all pairs of non-vertical and non-horizontal perpendicular lines in the whole class synthesis." In Unit 8, Lesson 6, students use the addition rule to find probabilities (LSSM S.CP.B.7). In the warm-up activity, a table is displayed that includes information about people at a neighborhood park. The first portion of the problem states, "Andre says the number of people wearing sneakers or wearing a hat is 21 because there are a total of 10 people wearing a hat and a total of 11 people wearing sneakers. Is Andre correct? Explain your reasoning." Students respond by identifying the error and constructing a viable argument as they explain the correct reasoning.
	Required **4c)** Materials explicitly attend to the **specialized language** of mathematics.	**Yes**	The materials explicitly attend to the specialized language of mathematics. Materials use accurate mathematical terminology and point out vocabulary throughout the materials. For example, in Unit 3, Lesson 1, students dilate a figure given a scale factor and a center. The

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			Lesson Narrative states, "When students are drawing a dilation they must both measure precisely and pay attention to which of the labeled points are being used as the center" (LSSM G.SRT.A.1). The lesson begins with the definition of scale factor learned in previous grades, as well as important concepts about scale drawings including, "the ratio distance between two points in the original figure to the distance between two corresponding points in the scaled figure is constant" and "the corresponding angles are congruent," emphasizing the importance of attending to the specialized language of mathematics. In Unit 1, Lesson 2, students follow instructions and use precise mathematical language to describe a construction. The lesson narrative states, "The purpose of this lesson is to give students practice writing and following precise instructions with straightedge and compass moves as they create interesting designs… students attend to precision when they refer to figures in their construction using mathematical terms and labeled points" (LSSM G.CO.A.1). At the start of the lesson, students engage in a Math Talk routine. Students are shown one problem then are given a few minutes to think about an answer and strategy. The teacher selects students to share different strategies, recording the various explanations for all students to see. This routine is followed by a whole-class

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			discussion. In the first problem, students are shown two circles, followed by 4 statements. Students explain how each statement is true. Sample responses are provided, such as "EA=EB because both segments are radii of circles with the same radius, AB," and "FA and AB are both radii of the same circle centered at A, FA=AB. That means triangle ABF is equilateral."
	4d) There are teacher-directed materials that **explain the role of the practice standards** in the classroom and in students' mathematical development.	**No**	The materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. The materials do not provide full explanations for the teacher concerning the purpose and intent of the practice standards, but rather a brief explanation of the math practices for each lesson. The practice standards are identified within the material alongside a brief description of where and how the math practice is addressed within the material. For example, in Unit 4, Lesson 11, the lesson narrative states, "Students should work with their groups to determine what information they need, how they calculated this information in the specific cases, and how they can express those repeated procedures in a generalized formula (MP.8)." In Unit 5, Lesson 10, Activity 10.3 states, "Students have the opportunity to look for and make use of structure (MP.7) as they identify fundamental characteristics of these solids regardless of their obliqueness or cross-

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			sectional shape." In Unit 5, Lesson 16, Activity 16.2 states, "Students analyze the relationship between the dimensions and the surface area of a solid with a fixed volume. As students identify patterns in the results of their classmates' calculations, they are making sense of the problem and persevering to solve it (MP.1)."
Section II: Additional Alignment Criteria and Indicators of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No	**Required** **5a)** Materials provide all students **extensive work** with grade/course-level problems.	**Yes**	The materials provide all students with extensive work with course-level problems. Review of material from previous grades and courses is clearly identified, and lessons that only address previous grade-level standards are identified as optional. Each lesson includes 4-5 activities that give students rich tasks and various stimuli to engage with thorough discussion prompts and related questions to answer. Each lesson then includes 4-10 practice problems (some problems have multiple parts within them), some directly pertaining to the lesson, and others being spiral review. In Unit 2, Lesson 6, students apply the Side-Angle-Side Triangle Congruence Theorem to prove the base angles of an isosceles triangle are congruent (LSSM G.CO.B.8, G.CO.C.10). After completing the lesson, students complete the practice portion of the lesson that includes six problems. Problem 2 states, "Tyler has written an incorrect proof to show that quadrilateral

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			ABCD is a parallelogram. He knows segments AB and DC are congruent. He also knows angles ABC and ADC are congruent. Find the mistake in his proof." Students read the proof and find the mistake. In Unit 5, Lesson 9, students use informal arguments to compare the volume of a cylinder to the volume of a prism that has equal height and area of its base. Students apply cylinder volume calculations to a solid of rotation (LSSM G.GMD.A.1, A.3, & B.4). After completing the lesson, students complete the practice portion of the lesson that includes seven problems. Students solve various problems addressing these course-level standards. For example, Problem 3 states, "Find the volume of each solid. 1. a cylinder with a radius of 4 inches and a height of 3 inches. 2. a cylinder with a radius of 3 inches and a height of 4 inches. 3. a hexagonal prism whose base has area 30.5 square centimeters and whose height is 6.5 centimeters. 4. a prism whose base is a right triangle with leg lengths 6 feet and 7 feet."
	Required **5b)** Materials **relate grade/course-level concepts explicitly to prior knowledge** from earlier grades and courses. The materials are designed so that prior knowledge is extended to accommodate the new knowledge, building to core instruction, on grade/course-level work. Lessons are appropriately **structured and scaffolded** to support student mastery.	**Yes**	The materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. Materials connect prior knowledge from earlier grades in a purposeful manner. The materials weave prior knowledge students should have from previous courses into lessons for this course so connections can be made and knowledge gained in earlier courses can be

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			extended upon. The teacher guide provides the standards that each lesson builds upon, the standard that each lesson is addressing, as well as the standards the lesson is building towards. At times, the warm-up activities are used to activate prior knowledge in order to access current course-level content. For example, in Unit 1, Lesson 19, students create conjectures about angle relationships and "prove" them using what they know about rigid transformations. Students begin the lesson with a warm-up activity that involves determining the angle measures in pairs of intersecting lines and for pairs of angles that make a straight angle (LSSM 7.G.B.5). The teacher guide explains that "these understandings help students develop fluency and will be helpful later in this lesson when students will need to be able to explain why vertical angles are congruent" (LSSM G.CO.C.9). In Unit 3, students use dilations and rigid transformations to justify triangle similarity theorems. Students build on previously learned concepts of congruence and rigid motions. In Lesson 1, students "review the definition of scale factor by comparing an example and a non-example of a scaled image" (building on LSSM 7.G.A.1, 8.G.A.3), followed by activities in which students practice dilating points and figures (addressing LSSM G.CO.A.2, G.SRT.A.1). The warm-up activity is used to remind students how measurements in a

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			scaled copy of a figure are related to measurements in the original figure. In the remaining activities, students practice dilating points and figures.
	Required **5c)** There is **variety** in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade/course-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	Students are asked to produce answers in a variety of ways. Students answers, solutions, arguments, explanations, diagrams, and various mathematical models. For example, in Unit 1, Lesson 12, Practice, students draw a translated quadrilateral in Problem 2, give two possible locations of a point based on certain criteria in Problem 5, and provide a numerical response as they find the measure of an angle in Problem 7. In Unit 3, Lesson 11, Activity 11.2, students answer the following question, “Does a line parallel to one side of a triangle always create similar triangles?” In their response, students first create several examples, then find any additional information and label it on the diagram, and then write an argument to support their conjecture. In Unit 6, Lesson 15, Activity 15.2, students find points on a line, calculate solutions using a given formula, answer a constructed response question, and then write an expression.
	5d) Support for **English Language Learners and other special populations** is provided. The language in which problems are posed is not an obstacle to understanding the content, and if it is, additional supports (suggestions for modifications, “vocabulary to preview”, etc.,) are included.	**Yes**	The materials include support for English Language Learners and other special populations to help them meet the same standards as other students. However, these supports are not provided for every lesson. For example, in Unit 6, Lesson 13, Activity 13.2, students “solve a system

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			consisting of a linear equation and a quadratic equation in 2 variables by estimating the solutions on a graph, and then verifying the solutions algebraically." Support for English Language Learners instructs the teacher as follows: "Speaking: MLR 8 Discussion Supports. Use this routine to support whole-class discussion. As students share their strategies for verifying that the points are on both the line and the circle, ask students to restate what they heard using precise mathematical language. Consider providing students time to restate what they hear to a partner before selecting one or two students to share with the class. Ask the original speaker if their peer was accurately able to restate their thinking. Call students' attention to any words or phrases that helped to clarify the original explanation, such as, 'each point is exactly five units away from the center (3,2).' This provides more students with an opportunity to produce language as they interpret the reasoning of others." In Unit 8, Lesson 8, Activity 8.1, "the mathematical purpose of this activity is to explore, formally define, and begin to develop an understanding of conditional probability." The lesson's Support for Students with Disabilities instructs as follows: "Representation: Internalize Comprehension. Use virtual or concrete manipulatives to connect symbols to concrete objects or values. Provide

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			students with a standard deck of cards to see the different suits and the cards that are red and black. Allow groups of students to manipulate the cards to illustrate the probabilities in the problems. Supports accessibility for Visual-spatial processing; Conceptual processing."
6. QUALITY OF ASSESSMENTS: Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed grade-specific Louisiana Student Standards for Mathematics. ☒ Yes ☐ No	**Required** **6a)** Multiple **assessment opportunities** are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in materials.	**Yes**	Multiple assessment opportunities are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in materials. For each unit, students complete a "Check Your Readiness" and End-of-Unit assessment. These assessments are formal, summative assessments that include a balance of standards from the lesson. For example, in Unit 4, students work with right triangles and trigonometry with cluster G.SRT.C. The associated End-of-Unit Assessment contains problems assigned to the same cluster. Throughout the lessons, materials offer multiple informal, formative assessments for teachers to determine student understanding and reasoning. For example, in Unit 7, Lesson 3, Activity 3.3, teachers are directed to ask students questions such as "How does the picture change as the value of a changes?" to determine their level of understanding of the activity on tangent lines (LSSM G.C.A.2).
	Required **6b)** Assessment items include a **combination of tasks** that require students to demonstrate conceptual	**Yes**	Assessment items include a combination of tasks that require students to demonstrate conceptual understanding,

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	understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. Assessment items require students to produce answers and solutions, arguments, explanations, and models, in a grade/course-appropriate way.		demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. For example, in the End-of-Unit Assessment for Unit 6, Problem 3, students use procedural skill to determine if certain points lie on a circle (LSSM G.GPE.B.4). In the End-of-Unit Assessment for Unit 8, Problem 4, students "find the probability that the selected student in the science class is an English major" in an application problem in a real world context (LSSM S.CP.A.1). Assessment items require students to produce answers and solutions, arguments, explanations, and models, in a course-appropriate way. For example, in the End-of-Unit Assessment for Unit 2: Congruence, students select all statements that are true about a set of triangles, determine a sequence from multiple choice, choose a reason from multiple choice, create two proofs from scratch, provide an explanation for an angle measure, and determine an angle measure.
	6c) Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction.	**Yes**	Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction. The Unit Overview for each unit provides an item analysis and instructional guidance if most students perform poorly on an item. For example, in

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			Unit 3, Unit Overview, Pre-Unit Diagnostic Assessment, Item Analysis for Question 2, states, "If most students struggle with this item…. Plan to do the optional Lesson 12 with a focus on calculating side lengths using the Pythagorean Theorem." End-of-Unit Assessments include an Item Analysis for teachers that include possible reasons students may have chosen incorrect answers. For example, the Unit 5 End-of-Unit Assessment Teacher Guide, Question 2, Item Analysis states that the student selected A "If they multiply the density by the volume," B "If they do not understand the relationship between density and volume," and D "If they add 460 and 92." However, the Modeling Rubric, found with the Modeling Prompts, is not standards based and contains unmeasurable characteristics such as "the reader can easily understand the reasoning leading to the solution."
	6d) Materials provide 2-3 **comprehensive assessments** (interims/benchmarks) that measure student learning up to the point of administration.	**No**	Materials do not provide 2-3 comprehensive assessments (interims/benchmarks) that measure student learning up to the point of administration. Each unit features a "Check Your Readiness" and End-Of-Unit Assessment. These assessments only include content from the unit in which they are given and are not comprehensive.
7. ADDITIONAL INDICATORS OF QUALITY:	**Required** **7a)** The content can be **reasonably completed** within a regular school year and the pacing of content allows for maximum student understanding. The materials provide	**Yes**	The content can be reasonably completed within a regular school year and the pacing of content allows for maximum student understanding. The materials provide

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Materials are well organized and provide teacher guidance for units and lessons. Materials provide timely supports to target specific skills/concepts to address students' unfinished learning in order to access grade-level work. ☒ Yes ☐ No	guidance about the amount of time a task might reasonably take.		guidance about the amount of time a task might reasonably take. A Unit Planner is included in each Unit Overview. The Unit Planner describes how many days each lesson should take and includes the associated LSSM standards. Each lesson provides an estimated number of minutes for each task and lesson pacing guide. For example, in Unit 5, Lesson 9, Activity 9.2, should take approximately 15 minutes. In Unit 8, Lesson 3, the Lesson Synthesis should take 5 minutes.
	Required **7b)** The materials are **easy to use and well organized** for students and teachers. Teacher editions are concise and easy to manage with clear connections between teacher resources. Guidance is provided for lesson planning and instructional delivery, lesson flow, questions to help prompt student thinking, and expected student outcomes.	**Yes**	The materials are easy to use and well organized for students and teachers. Teacher editions are concise and easy to manage with clear connections between teacher resources. Guidance is provided for lesson planning and instructional delivery, lesson flow, questions to help prompt student thinking, and expected student outcomes. Each unit includes a Unit Overview which references Prior Work, Work in the Unit, Unit Planner with pacing guidelines, Required Materials, Analysis for Diagnostic Assessments, and a full length Teacher's Edition of the Unit which includes standards, solutions, and guidance on how to assist students. Each Unit Overview (Teacher's Edition) contains Prior Work, Work in the Unit, Unit Planner, Required Materials, and Pre-Unit Diagnostic Assessment analysis. Each Lesson Overview (Teacher's Edition) contains Teacher-Facing Goals, Student Goals, Learning Targets, Lesson Pacing,

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Lesson Narrative, Instructional Routines, Standards, an overview of each activity, a Launch, Activity Synthesis, Guidance for Special Populations, Anticipated Misconceptions, questions to prompt student thinking, and sample student responses. For example, in Unit 1, Lesson 12, Activity 12.3, the Activity Synthesis provides the following question and anticipated response: "How do you know segments BC and B'C' are the same length? As an assertion, translations are rigid transformations that take segments to segments of equal length."
	Required **7c)** Materials include unit and lesson **study tools for teachers**, including, but not limited to, an explanation of the mathematics of each unit and mathematical point of each lesson as it relates to the organizing concepts of the unit and discussion on student ways of thinking and anticipating a variety of student responses.	**Yes**	Materials include unit and lesson study tools for teachers. Materials provide an overview of the mathematics in each unit and how it relates to prior and future units in the narrative that is provided in the teacher materials. The Implementation Guide details how long each unit and lesson should take and also provides a chart on unit dependency. Instructional routines used throughout the material are described within each lesson. In each lesson, the first page of the lesson provides teachers an overview of the lesson (Lesson Narrative), Learning Goals, Required Preparation, Learning Targets, Glossary Entries, and Standards. Each lesson contains instructions for each activity, student responses, activity synthesis, and anticipated misconceptions. The activity synthesis provides guiding questions that prompt student thinking

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			and discussion of desired mathematical behaviors. Prompts are provided throughout the lessons to guide teachers in instruction. In the Course Guide, a narrative explains the organization of units and where connections should occur. For example, in Unit 4, Lesson 5, Activity 5.2, provides Anticipated Misconceptions which states, “If students are struggling to make reasonable estimates for angle measures, refer them to their right triangle table.” In Activity 5.3, teachers are provided guidance that states, “Monitor for students who: use the information from the right triangle table as constants of proportionality and work with y=kx relationships; use the information from the right triangle table as ratios and find a scale factor that scales them up to the size of the given triangle; use the information from the right triangle table as values, and guess and check to find a side length that results in the right value.” Other guiding documents include teacher support for Design Principles, What is a “Problem-based Curriculum,” A Typical IM Lesson, How to Use the Materials, Mathematical Modeling Prompts, Information for Families, Supporting English-Language Learners, Supporting Students with Disabilities, Diagnostic Assessments, Cool Downs, Summative Assessments, and Screencast Tutorials.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	7d) Materials **identify prerequisite skills and concepts** for the major work of the grade/course, connected to the current on-grade/course-level work.	**Yes**	Materials identify prerequisite skills and concepts for the major work of the course, connected to the current on-course-level work. Each unit includes a Check Your Readiness Assessment which assesses targeted pre-requisite skills prior to beginning on-level coursework. The Check Your Readiness Teacher's Guide includes an Item Description, the pre-requisite standard addressed in the problem, the first lesson in which the skill or concept appears, and suggestions for what to do if students struggle. For example, the Unit 7 Check Your Readiness Teacher's Guide indicates that Question 1 assesses LSSM 7.G.B.4 which is first addressed in Lesson 8: Arcs and Sectors. Guidance is provided if students struggle and states, "Plan to review circumference and area calculations prior to Lesson 8." The Unit 4 Check Your Readiness Teacher's Guide indicates that Question 3 addresses LSSM 8.EE.B.5 which is first addressed in Lesson 4: Ratios in Right Triangles. Guidance is provided if students struggle and includes, "Plan to make clear the connection between the ratio of side lengths students measure and the value recorded in the right triangle table."
	7e) Materials provide guidance to help teachers **identify students** who need prerequisite work to engage successfully in core instruction, on-grade/course-level work.	**Yes**	Materials provide guidance to help teachers identify students who need prerequisite work to engage successfully in core instruction, on-course-level work. Each unit includes a Pre-Unit Diagnostic Assessment, also known as "Check Your

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Readiness" Assessment. The Pre-Unit Diagnostic Assessment analysis included in the Teacher's Edition Unit Overview often describes to teachers what to do if the majority of students do poorly on an assessment item. The teacher's guide includes solutions to questions, as well as suggestions for mistakes the students may have made and what to do if most students miss an item. For example, in the Unit 5, Check Your Readiness Teacher's Guide, teachers are provided the following instructions for problem #5, "If most students struggle with this item…. Plan to review square roots prior to Lesson 4 and to spend extra time on the Lesson 7 warm up, which addresses cube roots." In Unit 3, Check Your Readiness Teacher's Guide, teachers are provided the following instructions for problem 1: "If most students struggle with this item…Plan to review supplementary and complementary angles in complex diagrams before Lesson 13."
	7f) Materials provide **targeted, aligned, prerequisite work** for the major work of the grade/course, directly connected to specific lessons and units in the curriculum.	**No**	Materials do not provide targeted, aligned, prerequisite work for the major work of the grade/course, directly connected to specific lessons and units in the curriculum. Materials contain a Pre-Unit Diagnostic Assessment for each unit. The analysis for this assessment often includes suggestions for what to do if students perform poorly or favorably on a certain item. The materials identify prerequisite skills and concepts from earlier

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			units/lessons; however materials do not provide intentional, targeted, aligned, prerequisite work.
	7g) Materials provide **clear guidance and support** for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work.	**No**	Materials do not provide clear guidance and support for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work. Because targeted, aligned, prerequisite work for the major work of the course, directly connected to specific lessons and units in the curriculum was not evidenced, clear guidance and support to appropriately address the unfinished learning was not found.
FINAL EVALUATION ***Tier 1 ratings*** receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality. ***Tier 2 ratings*** receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality. ***Tier 3 ratings*** receive a "No" for at least one of the Non-negotiable Criteria.			
Compile the results for Sections I and II to make a final decision for the material under review.			
Section	**Criteria**	**Yes/No**	**Final Justification/Comments**
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	The materials devote the majority of the time to the major work of the grade. Materials spend the appropriate amount of time on course level work, while assessing course level standards.
	2. Consistent, Coherent Content	**Yes**	The materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. The problems and activities connect two or more clusters in a domain and/or two or more domains in

[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the grade level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	The materials reflect the balance in the standards and help students meet all of the standards' rigorous expectations. In addition, the materials are designed so that students attain the fluencies and procedural skills required and spend sufficient time working with conceptual understanding and engaging applications.
	4. Focus and Coherence via Practice Standards	**Yes**	The materials address the practice standards in ways that enrich the content standards of the course. Materials attend to the full meaning of the practice standards. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key course-level mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.
II: Additional Alignment Criteria and Indicators of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	The materials foster focus and coherence by linking topics across domains and clusters and across grades/courses, staying consistent with the progressions within the standards. Materials provide all students extensive work with course-level problems. Review of material from

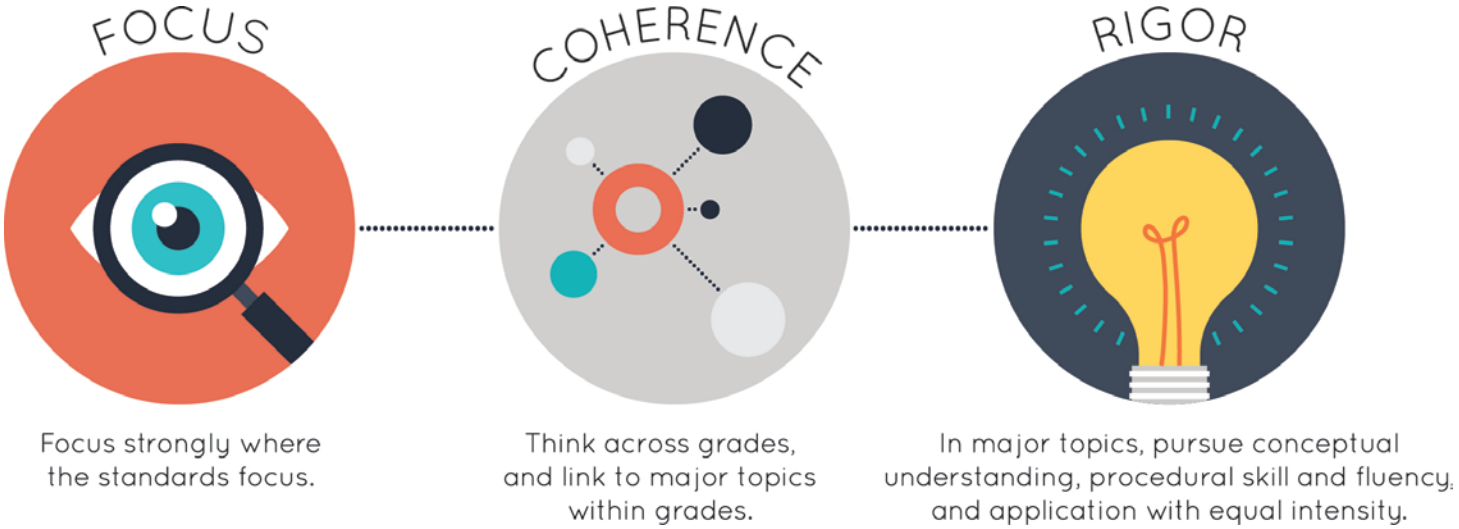
[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			previous grades and courses is clearly identified, and lessons which only address previous grade level standards are identified as optional. Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. Materials connect prior knowledge from earlier grades in a purposeful manner. In the materials, students are asked to produce answers in a variety of ways. Materials include support for English Language Learners and other special populations that is thoughtful and helps those students meet the same standards as all other students.
	6. Quality of Assessments	**Yes**	Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed grade-specific Louisiana Student Standards for Mathematics. Multiple assessment opportunities are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in the materials. Assessment items include a combination of tasks that require students to demonstrate conceptual understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction. However, materials do not provide 2-3 comprehensive assessments (interims/benchmarks) that measure student learning up to the point of administration.
	7. Additional Indicators of Quality	**Yes**	Materials are well organized and provide teacher guidance for units and lessons. The content can be reasonably completed within a regular school year and the pacing of content allows for maximum student understanding. The materials are easy to use and well organized for students and teachers. Materials include unit and lesson study tools for teachers. Materials identify prerequisite skills and concepts for the major work of the course, connected to the current on-course-level work. Materials provide guidance to help teachers identify students who need prerequisite work to engage successfully in core instruction, on-course-level work. However, materials do not provide targeted, aligned, prerequisite work for the major work of the grade/course, directly connected to specific lessons and units in the curriculum. Additionally, materials do not provide clear guidance and support for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Strong mathematics instruction contains the following elements:



Title: **Illustrative Math**

Grade/Course: **Algebra II**

Publisher: **McGraw Hill**

Copyright: **2021**

Overall Rating: **Tier I, Exemplifies quality**

Tier I, Tier II, Tier III Elements of this review:

STRONG	WEAK
1. Focus on Major Work (Non-negotiable)	
2. Consistent, Coherent Content (Non-negotiable)	
3. Rigor and Balance (Non-negotiable)	
4. Focus and Coherence via Practice Standards (Non-negotiable)	
5. Alignment Criteria for Standards for Mathematical Content	
6. Quality of Assessments	
7. Indicators of Quality	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-negotiable** Criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-negotiable** Criterion.
- Materials must meet **Non-negotiable** Criterion 1 and 2 for the review to continue to **Non-negotiable** Criteria 3 and 4. Materials must meet all of the **Non-negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-negotiable** Criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality.**

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded yellow. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section I: Non-negotiable Criteria of Superior Quality: Materials must meet Non-negotiable Criteria 1 and 2 for the review to continue to Non-negotiable Criteria 3 and 4. Materials must meet all of the Non-negotiable Criteria 1-4 in order for the review to continue to Section II.			
Non-negotiable **1. FOCUS ON MAJOR WORK[2]:** Students and teachers using the materials as designed devote the large majority[3] of time to the major work of the grade/course. ☒ Yes ☐ No	**Required** **1a)** Materials devote the **majority** of class time to the major work of each grade/course.	**Yes**	The materials devote a majority of the time to the major work of the grade. Of the instructional lessons, 67% are devoted to the major work of the grade. When omitting the lessons marked optional or outside the scope of the LSSM, 66% of the lessons are devoted to major standards of the grade. There are two supporting standards that are not addressed in the curriculum: LSSM F.IF.C.7b and F.IF.C.9.
	Required **1b)** Instructional materials, including assessments, spend minimal time on content outside of the appropriate grade/course **during core math instruction**. Content beyond grade/course-level should be clearly labeled as optional.	**Yes**	The materials spend the appropriate amount of time on course-level work while assessing course-level standards. There are no chapter tests, unit tests, or other assessments that make students or teachers responsible for any topics before the course in which they are introduced. Mid- and End-of-Unit Assessments assess major standards that are addressed within the lessons. For example, on the Unit 1, End-of-Unit Assessment, Item 7, students are provided sequence A in a table and sequence B on a coordinate plane and then write definitions for the nth term of the sequence (LSSM F.BF.A.2, F.IF.C.9). In Unit 4, End-of-Unit Assessment, Item 5, students solve equations such as $7 \times 10^n = 700$ (LSSM F.LE.A.4) which is taught in Unit

[2] For more on the major work of the grade, see Focus by Grade Level.
[3] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			4, Lesson 14. There are instances where students work outside the scope of the grade on prior content; however, these lessons are listed as optional and do not distract from the major work of the grade. For example, in Unit 2, Lesson 4, students add, subtract, and multiply polynomials (LSSM A.APR.A.1). In Unit 2, Lessons 16, students investigate the surface area of cylinders (LSSM A.CED.A.4). The previous content is used to scaffold instruction as seen in Unit 3, Lesson 1, where the Lesson Narrative in the teacher materials explains that "This lesson is optional because it revisits below grade-level content. If the pre-unit diagnostic assessment indicates that your students know this material, this lesson may be safely skipped." The lesson reactivates prior knowledge that will be needed later in the unit to address rational exponents (LSSM N.RN.A.1). In Unit 2, Lesson 6, Activity 6.3, students are reminded how to relate functions in factored form to their equivalent counterparts (LSSM A.SSE.B.3). The teacher materials explain that "This activity is an optional practice that not all classes may need. If students struggle with multiplying in the previous activity, this activity may be useful."
Non-negotiable **2. CONSISTENT, COHERENT CONTENT** Each course's instructional materials are coherent and	**Required** **2a)** Materials connect **supporting content to major content** in meaningful ways so that focus and coherence are enhanced throughout the year.	**Yes**	The materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. Multiple lessons that contain supporting content also contain

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
consistent with the content in the Standards. ☒ Yes ☐ No			and connect the major work of the grade. In Unit 2, Lesson 19, students explore the end behavior of rational functions (supporting LSSM S.ID.B.6) by writing functions in two variables that describe a relationship between two quantities (major LSSM F.BF.A.1). In Unit 4, Lesson 3, students determine the value of exponential functions at non-integer number inputs (supporting LSSM F.LE.A.2) using properties of integer exponents (major LSSM N.RN.A.1). Unit 6, Lesson 8, Activity 8.3, states, "The purpose of this activity is for students to compare different function types with a focus on periodic and non-periodic functions. The card sort allows students to compare a variety of graphs, helping students to construct their understanding of what the graphs of periodic functions can look like in preparation for future lessons that focus on the graphs of cosine and sine." The lesson connects supporting Cluster F.IF.C to major Cluster F.IF.B.4. In Unit 6, Lesson 18, students analyze graphs and their features using appropriate vocabulary such as "amplitude," "midline," and "period" (major LSSM F.IF.B.4) and sketch graphs of trigonometric functions (supporting LSSM F.IF.C.7e).
	Required **2b)** Materials include problems and activities that serve to connect two or more **clusters in a domain**, or two or more **domains in a grade/course**, in cases where these connections are natural and important.	**Yes**	The materials include problems and activities that connect two or more clusters in a domain and/or two or more domains in the course-level where these connections are natural and important.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Materials are coherent and consistent with multiple opportunities for students to engage in problems and activities involving two or more clusters in a domain, or two or more domains in a course. For example, in Unit 6, Lesson 5, Cluster A (Extend the domain of trigonometric functions using the unit circle) and Cluster C (Prove and apply trigonometric identities) of the same domain, Functions: Trigonometric Functions (F-TF), are connected. Students explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers (LSSM F.TF.A.2) and prove the Pythagorean Identity (LSSM F.TF.C.8). In Unit 1, Lesson 8, the Linear, Quadratic, and Exponential Models (LE) and Building Functions (BF) domains are connected. Students construct exponential and linear functions (LSSM F.LE.A.2) to write arithmetic and geometric sequences (LSSM F.BF.A.2). In Unit 7, Lesson 3, Activity 7.2, students identify if a given situation represents an experimental study or an observational study and must explain their reasoning (LSSM S.IC.B.3). The discussion questions within the activity lead students to conclude the importance of a random sample (LSSM S.IC.A.1), connecting clusters B (Make inferences and justifying conclusions from sample surveys, experiments, and observational studies) and A (Understand and evaluate the random processes underlying statistical

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			experiments) within the same domain, Statistics and Probability: making Inferences and Justifying Conclusions (S-IC).
Non-negotiable **3. RIGOR AND BALANCE:** Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application. ☒ Yes ☐ No	**Required** **3a)** ***Attention to Conceptual Understanding:*** Materials **develop conceptual understanding of key mathematical concepts,** especially where called for explicitly in specific content standards or cluster headings by featuring high-quality conceptual problems and discussion questions.	**Yes**	The materials develop the conceptual understanding of key mathematical concepts. Throughout the materials, standards written at a conceptual level of rigor are addressed in a manner that builds conceptual understanding. Several lessons require students to explain how they arrived at a solution or their rationale for using a certain method. For example, in Unit 7, Lesson 3, Activity 3.3, students analyze designs for power systems offered by a company for the population and answer the following question: "Which method do you think is best for estimating the mean area for the entire population? Explain your reasoning." (LSSM S.ID.A.4). In Unit 3, Lesson 10, students understand and represent $\sqrt{-1}$ and its multiples (LSSM N.CN.A.1). In Unit 5, Lesson 11, Practice, students sketch functions and show key features (LSSM F.IF.B.4). In Unit 6, Lesson 12, Activity 12.2, Question 1, students are asked to "Complete the table. For each positive angle in the table, add the corresponding point and the segment between it and the origin to the unit circle." Students then answer questions that require analyzing the table representing trigonometric functions as seen on the unit circle (LSSM F.TF.B.5).

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	Required **3b) *Attention to Procedural Skill and Fluency:*** The materials are designed so that students **attain the fluencies and procedural skills** required by the content standards. Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. In grades K-6, materials provide repeated practice toward attainment of fluency standards. In higher grades, sufficient practice with algebraic operations is provided in order for students to have the foundation for later work in algebra.	**Yes**	The materials are designed so that students attain the fluencies and procedural skills required by the standards. There is sufficient practice for standards that are written at a procedural level. For example, in Unit 2, Lesson 11, students find intersections of graphs of quadratic and linear functions (LSSM A.REI.C.7). In Unit 3, Lesson 17, Activity 17.3, students solve quadratic equations such as $x^2 - 8x + 13 = 0$ which have complex solutions (LSSM N.CN.C.7). In Unit 2, Lesson 8, students graph polynomial functions (LSSM F.IF.C.7c). In Unit 3, Lesson 18, Activity 18.3, students are given a table with two columns labeled Partner A and B, with each row having the same quadratic equation in different forms. Students are told, "For each row, you and your partner will each solve a quadratic equation. You should each get the same answer. If you disagree, work to reach an agreement." (LSSM N.CN.C.7).
	Required **3c) *Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with **engaging applications**, including ample practice with single-step and multi-step contextual problems, including non-routine problems, that develop the mathematics of the grade/course, afford opportunities for practice, and engage students in problem solving. The problems attend thoroughly to those places in the content standards where expectations for multi-step and real-world problems are explicit.	**Yes**	The materials are designed so that students spend sufficient time working with engaging applications. For standards that require application as a type of rigor, activities include contextual problems. In Unit 4, Lesson 4, Activity 4.3, students write exponential functions to represent the amount of caffeine left in a body after so many hours and analyze the graphs of those functions (LSSM F.LE.A.2). In Unit 7, Lesson 10, Activity 10.3, students estimate the proportion of flies with genetic

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			mutations in a group after being presented with a scenario in which a biologist selects 40 flies to sequence at random and finds that 9 of them have the genetic mutation (LSSM S.IC.B.4). In Unit 5, Lesson 8, Activity 8.3, students write a function that describes the relationship between the amount of food and a dog's weight (LSSM F.BF.A.1a). In Unit 6, Lesson 7, Activity 7.2, given a clock face on an unmarked grid, students are asked, "1. The length of the minute hand on a clock is 5 inches and the center of the clock is at (0,0) on a coordinate plane. Determine the coordinates of the end of the minute hand at the following times. Explain or show your reasoning. a) 45 minutes after the hour, b) 10 minutes after the hour, c) 40 minutes after the hour." (LSSM F.TF.B.5). Also, in Unit 7, Lesson 8, Activity 8.4 says, "You and some friends are playing a game in which each person rolls a standard number cube they brought. One of your friends seems to be rolling 6 a lot. Your friend rolled 20 times and got a 6 on eight of the rolls. Describe how you could collect data to determine if your friend might be using 'number cubes' that are not fair." (LSSM S.IC.A.2).
	Required **3d)** ***Balance:*** The three aspects of **rigor** are not always treated together and are not always treated separately.	**Yes**	It is evident in the materials that the three aspects of rigor are not always treated together and are not always treated separately. Lessons provide opportunities for students to demonstrate procedural fluency and conceptual understanding in

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the context of application to real-world situations. The levels of rigor are intertwined throughout the materials. For example, in Unit 5, Lesson 3, Activity 3.3, students use technology to graph two exponential functions on the same coordinate plane (procedural), analyze Jada and Noah's graphs (conceptual), and explain which graph best fits the data, which addresses LSSM F.BF.A.1 and S.ID.B.6a. In Unit 6, Lesson 6, Activity 6.2, students analyze Andre's work with the Pythagorean Identity and answer the question "Do you agree with Andre? Explain or show your reasoning." (conceptual, LSSM F.TF.C.8.). In Unit 4, Lesson 1, Activity 1.2, students reason (conceptual) how to scale a passport image in a photo editor (application) while calculating the scale factor (procedural) (LSSM F.LE.A.2). In Unit 4, Lesson 2, Activity 2.2, students are given the following situation: "The tuition at a college was $30,000 in 2012, $31,200 in 2013, and $32,448 in 2014. The tuition has been increasing by the same percentage since the year 2000." Students must interpret the meaning of 30,000 and 1.04 in a given function in #1 (conceptual, LSSM F.LE.B.5).
Non-negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Aligned materials make meaningful and purposeful connections that	**Required** **4a)** Materials attend to the **full meaning of the practice standards**. Each practice standard is connected to grade/course-level content in a meaningful way and is	**Yes**	The materials attend to the full meaning of each practice standard. Math practice standards are aligned to content standards and are present in various forms to develop habits of mind described in the

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. Materials address the practice standards in a way to enrich and strengthen the focus of the content standards instead of detracting from them. ☒ Yes ☐ No	present throughout the year in assignments, activities, and/or problems.		practice standards. Practice standards are explicitly pointed out in the teaching materials. For example, Unit 4, Lesson 10, Activity 10.2 explains, "This activity extends students' understanding of logarithms to include logarithms in another base. Students analyze patterns in a base 2 logarithm table and notice that it can be interpreted the same way as the base 10 table, except that this time the values in the right column are the exponents in expressions with base 2 (MP.7)." (LSSM F.LE.A.4). In Unit 7, Lesson 2, the Warm-Up explains, "This warm-up prompts students to compare four questions. It gives students a reason to use language precisely (MP.6) and provides the opportunity to talk about the characteristics of the items in comparison to one another." (LSSM S.IC.B.3). In Unit 3, Lesson 11, the Warm-Up explains that "students have an opportunity to look for repeated reasoning when squaring expressions that involve square roots (MP.8)." (LSSM N.CN.A.1). In Unit 4, Lesson 9, students discover how logarithms and exponents are related (LSSM F.LE.A.4). The Lesson Narrative explains that "Students begin by making sense of the values in a base 10 logarithm table, looking for patterns, and using their observations to solve exponential equations in base 10 (MP.8)." In Unit 5, Lesson 5, Activity 5.2, students participate in a card sort by noticing differences in the graphs of even

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			and odd functions (LSSM F.BF.B3). The teacher is encouraged to ensure student groups are utilizing precise language in their descriptions (MP.6).
	Required **4b)** Materials provide sufficient opportunities for students to **construct viable arguments and critique the arguments of others** concerning key grade/course-level mathematics that is detailed in the content standards (cf. MP.3). Materials engage students in problem solving as a form of argument, attending thoroughly to places in the standards that explicitly set expectations for multi-step problems.	**Yes**	The materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key course-level mathematics that is detailed in the content standards. Throughout the course, students critique the reasoning of other students. Students often construct viable arguments to explain their reasoning. For example, in Unit 2, Lesson 5, Activity 5.3, it is explained that "In this partner activity, students take turns using the structure of equations to match them to either a graph or a description of a graph, building their fluency identifying the horizontal intercepts of a graph of a polynomial from the equation of the polynomial written in factored form. As students trade roles explaining their thinking and listening, they have opportunities to explain their reasoning and critique the reasoning of others (MP.3)." In Unit 1, Lesson 3, Activity 3.2, students answer the question, "Elena says that it's not possible to have a sequence of numbers that is *both* arithmetic and geometric. Do you agree with Elena? Explain your reasoning." In Unit 3, Lesson 6, Activity 6.2, students work with square roots (LSSM A.REI.A.2) to critique the reasoning of others. Clare's formulated

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			response is given and students respond to the following: “How would you answer Clare’s question? Give reasons that support your answer.” In Unit 7, Lesson 6, Activity 6.1, students examine the area under a normal curve (LSSM S.ID.A.4). Teachers are instructed to ask the following question: “Andre said he drew the vertical line x=3.5 and found the area to the left of the line and then doubled it. Will Andre’s method work? Explain your reasoning.” In Unit 5, Lesson 11, Activity 11.2, students make models to fit data and must explain if the model they produce is a good fit for the model and why or why not (LSSM F.BF.A.1.b). In Unit 1, Lesson 6, Activity 6.2, students are partnered and take turns pairing a sequence to a definition. The student supports their claim, while the partner critiques their reasoning (LSSM F.BF.A.2).
	Required **4c)** Materials explicitly attend to the **specialized language** of mathematics.	**Yes**	The materials explicitly attend to the specialized language of mathematics. Materials use accurate mathematical terminology and point out vocabulary throughout the material. For example, in Unit 2, Lesson 5, Lesson Narrative, it is explained that “This lesson also offers an opportunity for students to use mathematical language about the zeros of a function and the intercepts of graphs.” (LSSM A.APR.B.3). In Unit 3, Lesson 11, Activity 11.4, students begin to understand the idea of complex numbers, as introduced in the lesson, explained as,

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			"When we add a real number and an imaginary number, we get a complex number." (LSSM N.CN.A.1). In Unit 4, Lesson 14, materials instruct teachers to help students attend to precision by using precise language related to parameters. In the Lesson Narrative, students are instructed to attend "carefully to the parameters of the equations (MP.6)." In Unit 2, Lesson 10, Activity 10.1, the Notice and Wonder protocol is summarized with the teacher being instructed to, "Tell students that this is an example of multiplicity. The multiplicity of a factor is the number of times the factor occurs when a polynomial is written in the factored form." (LSSM A.APR.B.3).
	4d) There are teacher-directed materials that **explain the role of the practice standards** in the classroom and in students' mathematical development.	**No**	The materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. The materials do not provide full explanations for the teacher concerning math practices, but rather there are brief explanations of the math practices for each lesson. The practice standards are identified within the material alongside a brief description of where and how the math practice is addressed within the material. For example, in Unit 4, Lesson 3, the Lesson Narrative explains that "Students construct exponential functions to model the growth of a population and the decay of the amount of medicine in the body. In both

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			cases, they solve problems by interpreting functions (represented both graphically and with expressions) in context, working across different representations of the situations (MP.2)." In Unit 5, Lesson 8, Activity 8.1, it is explained that "By engaging with the image of the arch to first become familiar with a context and the mathematics that might be involved, students are making sense of problems (MP.1)." In Unit 2, Lesson 23, Lesson Narrative, the sequence of the lesson explains that "students explore several cases of an identity where the application of the distribution property leads to an expression with fewer terms than might be expected (MP.8)."
Section II: Additional Alignment Criteria and Indicators of Superior Quality			
5. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT: Materials foster focus and coherence by linking topics (across domains and clusters) and across grades/courses by staying consistent with the progressions in the Standards. ☒ Yes ☐ No	**Required** **5a)** Materials provide all students **extensive work** with grade/course-level problems.	**Yes**	The materials provide all students with extensive work with course-level problems. The review of material from previous grades and courses is clearly identified, and those lessons which address previous grade-level standards are identified as optional. Each lesson includes 4-5 activities that give students rich tasks and various stimuli to engage with through discussion prompts and related questions to answer. Each lesson then includes 4-10 practice problems (some problems have multiple parts within them), some directly pertaining to the lesson, and others being spiral review. In Unit 2, Lesson 12, students divide polynomials while working

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			with the major LSSM A.APR.B.2 and A.APR.B.3. In Unit 1, Lesson 3, Activity 3.1, the teacher guide explains that "The purpose of this warm-up is to informally assess strategies and understandings students currently have for interpreting function notation which they learned about in an earlier course. Students will use function notation when they define sequences with equations in later lessons, so this warm-up is an opportunity for practice" (LSSM F.IF.A.2).
	Required **5b)** Materials **relate grade/course-level concepts explicitly to prior knowledge** from earlier grades and courses. The materials are designed so that prior knowledge is extended to accommodate the new knowledge, building to core instruction, on grade/course-level work. Lessons are appropriately **structured and scaffolded** to support student mastery.	**Yes**	The materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. Materials connect prior knowledge from earlier grades in a purposeful manner. The materials weave prior knowledge students should have from previous courses into lessons for this course so connections can be made and knowledge gained in earlier courses can be extended upon. For example, Unit 6, Lesson 2, the Lesson Narrative explains that "The purpose of this lesson is for students to recall how to determine the value of the cosine, sine, and tangent of an angle for a right triangle. This lesson builds on the work in the previous lesson and incorporates the right triangle trigonometric ratios students encountered in a previous course." (building on LSSM G.SRT.C and building toward LSSM F.TF.A.2). In Unit 3, Lesson 17, the Lesson Narrative explains that "In earlier courses, students developed strategies for solving

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			quadratic equations. Earlier in this unit, students developed the concept of complex numbers. In this lesson, students connect these ideas by solving quadratic equations whose solutions are non-real complex numbers. Students complete the square to analyze the conditions that lead quadratic equations with real coefficients to have 1 real solution, 2 real solutions, or 2 non-real solutions." (LSSM N.CN.C.7). In Unit 3, Lesson 3, students create roots using fractional exponents based on LSSM 8.EE.A to address LSSM N.RN.A. In Unit 7, Lesson 5, students describe different distributions as previously completed in Algebra 1 for LSSM S.ID.A.1 and S.ID.A.2. Students build on this work in the same lesson by applying concepts of mean and standard deviation to data for LSSM S.ID.A.4. In Unit 5, Lesson 4, Activity 4.1, the teacher guide explains that "Students should be familiar with the properties of reflections from a previous course" when eliciting the idea that functions can be reflected horizontally or vertically in the warm-up (LSSM F.BF.B.3).
	Required **5c)** There is **variety** in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade/course-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	**Yes**	Students are asked to produce answers in a variety of ways. Students must produce answers, solutions, arguments, explanations, diagrams, and various mathematical models. In Unit 6, Lesson 16, Practice, students explain the meaning of numbers given in a trigonometric function (question 2) and identify the period and sketch a graph of a cosine function

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			(question 5). In Unit 4, Lesson 5, Activity 5.2, students complete a table or use a spreadsheet to solve application problems related to exponential equations. In Unit 6, Lesson 6, Activity 6.3, students complete a card sort where "One set of cards shows the value of sine, cosine, or tangent of an unknown angle. The other set of cards shows a quadrant number on the unit circle. Students then select one of their possible matches and calculate the values of the two other trigonometric ratios." In Unit 2, Lesson 2, Activity 2.3, the teacher guide states, "The purpose of this activity is for students to write a polynomial to model a simple investment situation. Students have the opportunity to decide to use a table, equation, graph, or a combination of the three to make sense of and reason about the situation (MP.5)." Also, in Unit 5, Lesson 10, Activity 10.2, students analyze a given table, and then plot a graph, answer a question about a given value and provide an explanation for their answer, and complete a table and graph given a new function.
	5d) Support for **English Language Learners and other special populations** is provided. The language in which problems are posed is not an obstacle to understanding the content, and if it is, additional supports (suggestions for modifications, "vocabulary to preview", etc.,) are included.	**Yes**	The materials include support for English Language Learners and other special populations to help them meet the same standards as other students. However, these supports are not provided for every lesson. For example, Unit 7, Lesson 5, Activity 5.2, the teacher's lesson has Support for Students with Disabilities and instructs them to "Read the directions for

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			taking the measurements aloud. Demonstrate measuring your own hand and how to estimate the measurement to the nearest tenth of a centimeter. Students who both listen to and read the information will benefit from extra processing time." In Unit 4, Lesson 9, Activity 9.1, Support for English Language Learners instructs the teacher to "Display sentence frames to support students when they explain their strategy. For example, 'First, I _____ because . . .' or 'I noticed _____ so I... Some students may benefit from the opportunity to rehearse what they will say with a partner before they share with the whole class." In Unit 2, Lesson 2, Activity 2.2, support for English Language Learners in "Reading, Writing, Speaking: MLR3 Clarify, Critique, Correct" explains that "before students share their explanations for the last question, present an ambiguous response. For example, 'I can use base powers and replace the numbers with variables to find the answer.' Ask students to identify the error, critique the reasoning, and write a correct explanation. As students discuss with a partner, listen for students who identify and clarify the ambiguous language in the statement. Invite students to share their critiques and corrected explanations with the class. Listen for and amplify the language students use to explain the process of using powers of 10 to rewrite an equation. This helps students evaluate,

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			and improve on, the written mathematical arguments of others, as they understand the relationship of polynomial expressions and powers of 10."
6. QUALITY OF ASSESSMENTS: Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed grade-specific Louisiana Student Standards for Mathematics. ☒ Yes ☐ No	**Required** **6a)** Multiple **assessment opportunities** are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in materials.	**Yes**	Multiple assessment opportunities are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in materials. In every unit, there is a "Check Your Readiness" diagnostic assessment and an End-of-Unit assessment. Longer units also include a Mid-Unit assessment. In the first portion of Unit 4, students work with exponential models and seeing structures in expressions with the clusters F.LE and A.SSE respectively. The Mid-Unit assessment features questions assessing these clusters. Throughout all lessons, materials include opportunities for teachers to gauge student understanding using formative assessments. For example, in Unit 5, Lesson 6, Activity 6.4, students are asked, "Identify each function as even, odd, or neither. Explain or show your reasoning," of two possible functions in the lesson's "Cool Down" (LSSM F.BF.B.3, F.IF.C.8).
	Required **6b)** Assessment items include a **combination of tasks** that require students to demonstrate conceptual understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. Assessment items require students to produce answers and solutions,	**Yes**	Assessment items include a combination of tasks that require students to demonstrate conceptual understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. For example, on the End-of-Unit Assessment

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	arguments, explanations, and models, in a grade/course-appropriate way.		for Unit 2, Problem 3, students use procedural skill to select all of the solutions to the equation (2x-4)(x+5)=0 (LSSM A.REI.B.4.b). In the End-of-Unit Assessment for Unit 7, Problem 6 students are given a situation about scientists testing mosquitoes for a disease, which is followed by application questions. For Part a, students must estimate the proportion of mosquitoes with the disease, provide a margin of error, and explain their reasoning. For Part b, students are asked, "Why did the scientist run the simulations to find additional possible proportions of mosquitoes in the area that carry the disease?" (LSSM S.IC.B.4). Assessment items require students to produce answers and solutions, arguments, explanations, and models, in a course-appropriate way. The summative assessments include a variety of questions including numeric, drop down fill in the blank, graphing, multiple choice, select all that apply, and constructed response. For example, in the End-of-Unit Assessment for Unit 6: Trigonometric Functions, students answer a multiple choice question about what statement is true about a function, select all that apply that is true about the height represented by a given function, a multiple choice about describing the graph of a function, short answer questions about a given graph, two open ended questions about given functions, and a three part application question.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	6c) Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction.	**Yes**	Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction. For example, on the Unit 1 End-of-Assessment, Question 1 is a select all that apply question. The materials provide an explanation for why students may have chosen a wrong answer or not chosen the correct one. For example, students may not have chosen the correct answer choice C because "Students selecting this choice...forgot to consider that negative values also square to equal a positive." The materials also give three notes if students got the question wrong including instructional guidance such as, "Students will see that negative and positive numbers both have positive squares in Lesson 6." Also, in the "Check Your Readiness" Assessment for Unit 5, Question 1, an Item Analysis is given that states, "Students selecting A or B may not understand reflections. Students who select C may recognize that a reflection across the line y = -x aligns one vertex and may think aligning one of the vertices must align the others as well," aiding in explaining students' thinking in reference to these prerequisite skills.
	6d) Materials provide 2-3 **comprehensive assessments** (interims/benchmarks) that measure student learning up to the point of administration.	**No**	Materials do not provide 2-3 comprehensive assessments (interims/benchmarks) that measure

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			student learning up to the point of administration. Each unit features a "Check Your Readiness" and End-Of-Unit Assessment. These assessments only include content from the unit in which they are given and are not comprehensive.
7. ADDITIONAL INDICATORS OF QUALITY: Materials are well organized and provide teacher guidance for units and lessons. Materials provide timely supports to target specific skills/concepts to address students' unfinished learning in order to access grade-level work. ☒ Yes ☐ No	**Required** **7a)** The content can be **reasonably completed** within a regular school year and the pacing of content allows for maximum student understanding. The materials provide guidance about the amount of time a task might reasonably take.	**Yes**	The content can be reasonably completed within a regular school year and the pacing of content allows for maximum student understanding. The materials provide guidance about the amount of time a task might reasonably take. A Unit Planner is included in each Unit Overview. The Unit Planner describes how many days each lesson should take and includes the associated LSSM standards. Each lesson provides an estimated number of minutes for each task and lesson pacing guide. For example, in Unit 2, Lesson 12, Activity 12.3 should take 15 minutes. Also, in Unit 7, Lesson 1 6, Cool Down 16.5 should take 5 minutes.
	Required **7b)** The materials are **easy to use and well organized** for students and teachers. Teacher editions are concise and easy to manage with clear connections between teacher resources. Guidance is provided for lesson planning and instructional delivery, lesson flow, questions to help prompt student thinking, and expected student outcomes.	**Yes**	The materials are easy to use and well organized for students and teachers. Teacher editions are concise and easy to manage with clear connections between teacher resources. Guidance is provided for lesson planning and instructional delivery, lesson flow, questions to help prompt student thinking, and expected student outcomes. Each unit includes a Unit Overview which references Prior Work, Work in the Unit, Unit Planner with pacing guidelines, Required Materials, Analysis for Diagnostic Assessments, and a

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			full length Teacher's Edition of the Unit which includes standards, solutions, and guidance on how to assist students. Each Unit Overview (Teacher's Edition) contains Prior Work, Work in the Unit, Unit Planner, Required Materials, and Pre-Unit Diagnostic Assessment analysis. Each Lesson Overview (Teacher's Edition) contains Teacher-Facing Goals, Student Goals, Learning Targets, Lesson Pacing, Lesson Narrative, Instructional Routines, Standards, an overview of each activity, a Launch, Activity Synthesis, Guidance for Special Populations, Anticipated Misconceptions, questions to prompt student thinking, and sample student responses. For example, in Unit 4, Lesson 2, Activity 2.3, the Launch explains to teachers, "Clarify the meaning of depreciation for students who may not know what it means."
	Required **7c)** Materials include unit and lesson **study tools for teachers**, including, but not limited to, an explanation of the mathematics of each unit and mathematical point of each lesson as it relates to the organizing concepts of the unit and discussion on student ways of thinking and anticipating a variety of student responses.	**Yes**	Materials include unit and lesson study tools for teachers. Materials provide an overview of the mathematics in each unit and how it relates to prior and future units in the narrative that is provided in the teacher materials. The Implementation Guide details how long each unit and lesson should take and also provides a chart on unit dependency. Instructional routines used throughout the material are described within each lesson. In each lesson, the first page of the lesson provides teachers an overview of the lesson (Lesson Narrative), Learning Goals,

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Required Preparation, Learning Targets, Glossary Entries, and Standards. Each lesson contains instructions for each activity, student responses, activity synthesis, and anticipated misconceptions. The activity synthesis provides guiding questions that prompt student thinking and discussion of desired mathematical behaviors. Prompts are provided throughout the lessons to guide teachers in instruction. In the Course Guide, a narrative explains the organization of units and where connections should occur. For example, in Unit 3, Lesson 4, Activity 4.2, the student misconceptions are "If students have trouble writing the expressions using radicals, help them make connections to their previous understanding of relationships between cubes and cube roots." In Unit 5, Lesson 4, Activity 4.3, directions are provided for the teacher to guide the activity: "Arrange students in groups of 2. Display the graph of function and the prompt…. Make a prediction about what the graph will look like. Allow students 1 minute of quiet think time, then invite students to briefly discuss their predictions with their partner. Tell students that they will confirm their prediction in the activity." In Unit 3, Lesson 3, teachers can access lesson notes that give directions, explanations, and discussion prompts for every activity such as guiding discussion questions for students finding square and cube roots by

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			hand in Activity 3.1. Other guiding documents include teacher support for Design Principles, What is a "Problem-based Curriculum," A Typical IM Lesson, How to Use the Materials, Mathematical Modeling Prompts, Information for Families, Supporting English-Language Learners, Supporting Students with Disabilities, Diagnostic Assessments, Cool Downs, Summative Assessments, and Screencast Tutorials.
	7d) Materials **identify prerequisite skills and concepts** for the major work of the grade/course, connected to the current on-grade/course-level work.	**Yes**	Materials identify prerequisite skills and concepts for the major work of the course, connected to the current on-course-level work. Each unit includes a Check Your Readiness Assessment which assesses targeted pre-requisite skills prior to beginning on-level coursework. The Check Your Readiness Teacher's Guide includes an Item Description, the pre-requisite standard addressed in the problem, the first lesson in which the skill or concept appears, and suggestions for what to do if students struggle. For example, the Unit 3 Check Your Readiness Assessment Teacher's Guide lists the following prerequisite standards next to each item: LSSM 4.NF.B, 8.EE.A.1, 8.EE.A.2, HSA-APR.A.1, HSA-REI.A.2, and HSA-REI.B.4. Unit 5, Check Your Readiness Teacher's Guide indicates that Question 6 assesses LSSM F.IF.B.4 which first appears in Lesson 2. Guidance is provided if students struggle and states, "If most students struggle with this item... Plan to incorporate a review of

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			function notation and interpreting functions during Lesson 1 Activity 2".
	7e) Materials provide guidance to help teachers **identify students** who need prerequisite work to engage successfully in core instruction, on-grade/course-level work.	**Yes**	Materials provide guidance to help teachers identify students who need prerequisite work to engage successfully in core instruction, on-course-level work. Each unit includes a Pre-Unit Diagnostic Assessment, also known as "Check Your Readiness" Assessment. The Pre-Unit Diagnostic Assessment analysis included in the Teacher's Edition Unit Overview often describes to teachers what to do if the majority of students do poorly on an assessment item. The teacher's guide includes solutions to questions, as well as suggestions for mistakes the students may have made and what to do if most students miss an item. For example, on the Unit 2 "Check Your Readiness" Assessment, Problem 1, the Narrative states, "Students begin their study of rational functions by rearranging and combining familiar formulas from geometry, which the work in this problem is a simpler precursor to." (A.CED.A.4). For the Unit 6 "Check Your Readiness" Problem 4, if most students struggle with this item… Plan to use the optional Activity 3 in Lesson 2. This activity reviews the relationship between the circumference and radius of a circle and defines 1 radian on the unit circle." (7.G.B.4, G.C.B.5).
	7f) Materials provide **targeted, aligned, prerequisite work** for the major work of the grade/course, directly	**No**	Materials do not provide targeted, aligned, prerequisite work for the major work of the grade/course, directly connected to

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	connected to specific lessons and units in the curriculum.		specific lessons and units in the curriculum. Materials contain a Pre-Unit Diagnostic Assessment for each unit. The analysis for this assessment often includes suggestions for what to do if students perform poorly or favorably on a certain item. The materials identify prerequisite skills and concepts from earlier units/lessons; however materials do not provide intentional, targeted, aligned, prerequisite work.
	7g) Materials provide **clear guidance and support** for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work.	**No**	Materials do not provide clear guidance and support for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work. Because targeted, aligned, prerequisite work for the major work of the course, directly connected to specific lessons and units in the curriculum was not evidenced, clear guidance and support to appropriately address the unfinished learning was not found.

FINAL EVALUATION

Tier 1 ratings receive a "Yes" for all Non-negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-negotiable Criteria.

Compile the results for Sections I and II to make a final decision for the material under review.

Section	Criteria	Yes/No	Final Justification/Comments
I: Non-negotiable Criteria of Superior Quality[4]	1. Focus on Major Work	**Yes**	The materials devote the majority of the time to the major work of the grade. Materials spend the appropriate amount

[4] Must score a "Yes" for all Non-negotiable Criteria to receive a Tier I or Tier II rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			of time on course level work, while assessing course level standards.
	2. Consistent, Coherent Content	**Yes**	The materials connect supporting content to major content in meaningful ways so that focus and coherence are enhanced throughout the year. The problems and activities connect two or more clusters in a domain and/or two or more domains in the grade level where these connections are natural and important.
	3. Rigor and Balance	**Yes**	The materials reflect the balance in the standards and help students meet all of the standards' rigorous expectations. In addition, the materials are designed so that students attain the fluencies and procedural skills required and spend sufficient time working with conceptual understanding and engaging applications.
	4. Focus and Coherence via Practice Standards	**Yes**	The materials address the practice standards in ways that enrich the content standards of the course. Materials attend to the full meaning of the practice standards. Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key course-level mathematics that is detailed in the content standards. Materials explicitly attend to the specialized language of mathematics. However, materials do not include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
II: Additional Alignment Criteria and Indicators of Superior Quality[5]	5. Alignment Criteria for Standards for Mathematical Content	**Yes**	The materials foster focus and coherence by linking topics across domains and clusters and across grades/courses, staying consistent with the progressions within the standards. Materials provide all students extensive work with course-level problems. Review of material from previous grades and courses is clearly identified, and lessons which only address previous grade level standards are identified as optional. Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. Materials connect prior knowledge from earlier grades in a purposeful manner. In the materials, students are asked to produce answers in a variety of ways. Materials include support for English Language Learners and other special populations that is thoughtful and helps those students meet the same standards as all other students.
	6. Quality of Assessments	**Yes**	Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed grade-specific Louisiana Student Standards for Mathematics. Multiple assessment opportunities are embedded into content materials and measure student mastery of standards that reflect the balance of the standards as presented in the materials.

[5] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier I rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			Assessment items include a combination of tasks that require students to demonstrate conceptual understanding, demonstrate procedural skill and fluency, and apply mathematical reasoning and modeling in real world context. Scoring guidelines and rubrics align to standards, incorporate criteria that are specific, observable, and measurable, and provide sufficient guidance for interpreting student performance, misconceptions, and targeted support to engage in core instruction. However, materials do not provide 2-3 comprehensive assessments (interims/benchmarks) that measure student learning up to the point of administration.
	7. Additional Indicators of Quality	**Yes**	Materials are well organized and provide teacher guidance for units and lessons. The content can be reasonably completed within a regular school year and the pacing of content allows for maximum student understanding. The materials are easy to use and well organized for students and teachers. Materials include unit and lesson study tools for teachers. Materials identify prerequisite skills and concepts for the major work of the course, connected to the current on-course-level work. Materials provide guidance to help teachers identify students who need prerequisite work to engage successfully in core instruction, on-course-level work. However, materials do not provide targeted, aligned, prerequisite work for

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			the major work of the grade/course, directly connected to specific lessons and units in the curriculum. Additionally, materials do not provide clear guidance and support for teachers about the structures that allow students to appropriately address unfinished learning using prerequisite work.
FINAL DECISION FOR THIS MATERIAL: **Tier I, Exemplifies quality**			

Instructional materials are one of the most important tools educators use in the classroom to enhance student learning. It is critical that they fully align to state standards—what students are expected to learn and be able to do at the end of each grade level or course—and are high quality if they are to provide meaningful instructional support.

The Louisiana Department of Education is committed to ensuring that every student has access to high-quality instructional materials. In Louisiana all districts are able to purchase instructional materials that are best for their local communities since those closest to students are best positioned to decide which instructional materials are appropriate for their district and classrooms. To support local school districts in making their own local, high-quality decisions, the Louisiana Department of Education leads online reviews of instructional materials.

Instructional materials are reviewed by a committee of Louisiana educators. Teacher Leader Advisors (TLAs) are a group of exceptional educators from across Louisiana who play an influential role in raising expectations for students and supporting the success of teachers. Teacher Leader Advisors use their robust knowledge of teaching and learning to review instructional materials.

The 2020-2021 Teacher Leader Advisors are selected from across the state and represent the following parishes and school systems: Acadia, Ascension, Beauregard, Bossier, Caddo, Calcasieu, City of Monroe, Claiborne, Diocese of Alexandria, East Baton Rouge, Evangeline, Firstline Schools, Iberia, Iberville, Jefferson, Jefferson Davis, Jefferson Parish Charter, KIPP, Lafayette, Lafourche, Lincoln, Livingston, Louisiana Tech University, Louisiana Virtual Charter Academy, Lusher Charter School, Natchitoches, Orleans, Ouachita, Plaquemines, Pointe Coupee, Rapides, Richland, Special School District, St. Charles, St. Landry, St. Tammany, Tangipahoa, Tensas, Vermillion, Vernon, West Feliciana, and Zachary Community. This review represents the work of current classroom teachers with experience in grades 6-12.

Appendix I.

Publisher Response

The publisher had no response.

Appendix II.

Public Comments

Public Review - Louisiana Online Instructional Materials Reviews

Welcome! Thank you for sharing your views and participating in this review.

The following rules govern public comments related to the state review of instructional materials:

1. By submitting this review you agree to the rules that govern public comments.

2. Parents and other members of the public are encouraged to provide input relative to the textbooks and instructional materials under state review.

3. Responses and comments are subject to publication as part of the final state review.

4. The public comment period for any program under review is four weeks.

5. Comments submitted below must be related to the instructional materials you select.

6. In lieu of commenting through the official online form, attachments and separate e-mails may be submitted to LouisianaCurriculumReview@la.gov, but must include the title or reference number associated with instructional materials that are under state review.

7. Comments using profanity or deemed slanderous of any nature will not be published.

As a reminder, to access completed state reviews, a current list of instructional materials available for public review, and list of those coming soon, visit https://www.louisianabelieves.com/academics/ONLINE-INSTRUCTIONAL-MATERIALS-REVIEWS.

Titles currently available for review are included in the choices below.
McGraw Hill - Illustrative Mathematics Alg. I (Math Full Curriculum) [public review ends 10/1/2020]
McGraw Hill - Illustrative Mathematics Geom. (Math Full Curriculum) [public review ends 10/1/2020]
McGraw Hill - Illustrative Mathematics Alg. II (Math Full Curriculum) [public review ends 10/1/2020]
LearnZillion - Illustrative Mathematics Alg I (Math Full Curriculum) [public review ends 10/15/2020]
LearnZillion - Illustrative Mathematics Geom (Math Full Curriculum) [public review ends 10/15/2020]
LearnZillion - Illustrative Mathematics Alg II (Math Full Curriculum) [public review ends 10/15/2020]

Email questions to LouisianaCurriculumReview@la.gov.

Email address *

AshleeBullock@comcast.net

Basic Information

First Name *

Ashlee

Last Name *

Bullock

In what Louisiana parish do you live? (If not a Louisiana resident, indicate the city and state of your residence.) *

Ouachita

Submit a Review

Disclaimer: I understand that the Department will not verify the accuracy or validity of public comments and that these comment do not reflect the opinions or policies of the State Board of Elementary and Secondary Education or the State Superintendent of Education.

Please respond to the following set of questions and leave comments below.

About which materials are you submitting a comment? *

- (●) McGraw Hill - Illustrative Mathematics Alg. I (Math Full Curriculum) [public review ends 10/1/2020]
- ( ) McGraw Hill - Illustrative Mathematics Geom. (Math Full Curriculum) [public review ends 10/1/2020]
- ( ) McGraw Hill - Illustrative Mathematics Alg. II (Math Full Curriculum) [public review ends 10/1/2020]
- ( ) LearnZillion - Illustrative Mathematics Alg I (Math Full Curriculum) [public review ends 10/15/2020]
- ( ) LearnZillion - Illustrative Mathematics Geom (Math Full Curriculum) [public review ends 10/15/2020]tion 5
- ( ) LearnZillion - Illustrative Mathematics Alg II (Math Full Curriculum) [public review ends 10/15/2020]

Were the materials inviting and appealing?

- (●) Yes
- ( ) No

Were the materials user-friendly and easy to navigate?

- (●) Yes
- ( ) No

Were the materials age and grade appropriate?

- (●) Yes
- ( ) No

My comments pertain to:

- (●) The entire program
- ( ) A particular title or grade within the program (to be indicated in my comments)