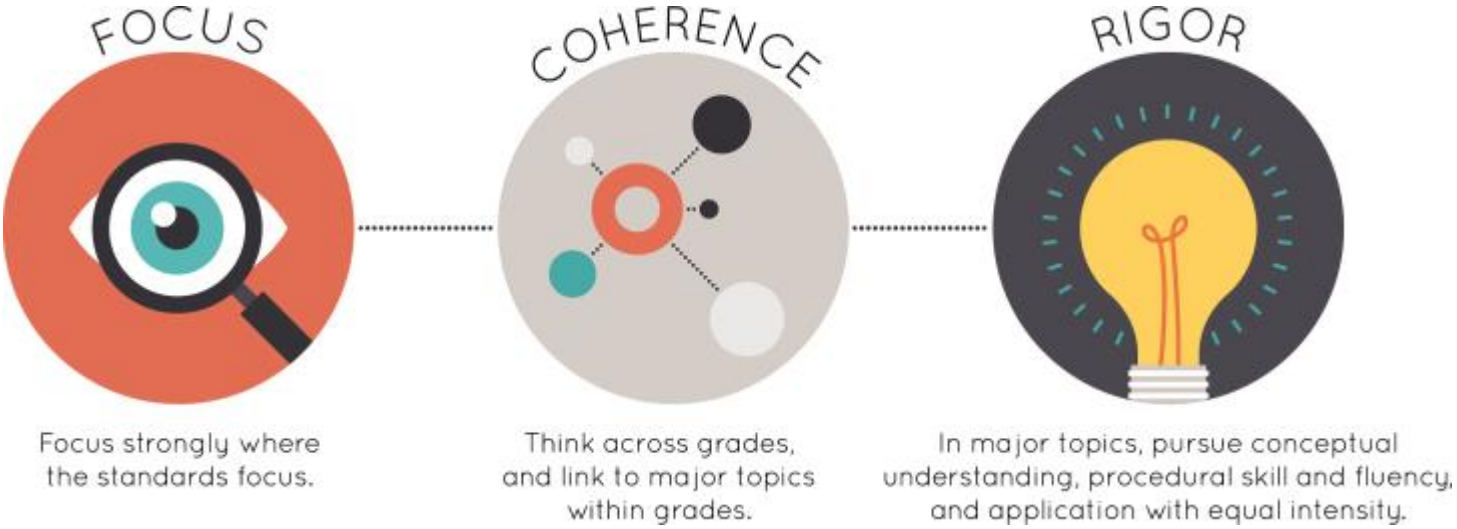
Instructional Materials Evaluation Tool for Alignment in Mathematics Grades K – 12 (IMET)

FULL CURRICULUM
Instructional Materials

Strong mathematics instruction contains the following elements:



Title: **Core Connections Algebra**

Grade/Course: **Algebra**

Publisher: **CPM Educational Program**

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Overall Rating: **Tier II, Approaching quality**

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

STRONG	WEAK
1. Focus on Major Work (Non-Negotiable)	5. Alignment Criteria for Stnds. for Math Content
2. Consistent, Coherent Content (Non-Negotiable)	
3. Rigor and Balance (Non-Negotiable)	
4. Focus Coh. via Practice Std (Non-Negotiable)	
6. Alignment Criteria for Stnds. for Math Practice	
7. Indicators of Quality	

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

Tier 1 ratings receive a "Yes" in Column 1 for Criteria 1 – 7.
Tier 2 ratings receive a "Yes" in Column 1 for all non-negotiable criteria (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.			
Non-Negotiable **1. FOCUS ON MAJOR WORK[1]:** Students and teachers using the materials as designed devote the large majority[2] of time to the major work of the grade/course. ☒ Yes ☐ No	**REQUIRED** **1a)** Materials should devote the large majority of class time to the major work of each grade/course. Each grade/course must meet the criterion; do not average across two or more grades.	**Yes**	The majority of the content is correlated to major work. Based on the Correlation of CPM Core Connections Algebra to Louisiana Student Standards for Algebra 1, there are 103 lessons. 74 out of the 103 (72%) lessons are spent on priority content. For example, Lesson 3.3.2 focuses on solving literal equations (A1: A-REI.A.4). Another example of Major Work of Algebra 1 can be found in Lesson 5.3.3 where students recognize sequences as functions (A1: F-IF.A.3).
	REQUIRED **1b)** In any one grade/course, instructional materials should spend minimal time on content outside of the appropriate grade/course. Previous grade/course content should be used only for scaffolding instruction. In assessment materials there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.	**Yes**	There is minimal time spent on content outside of Algebra 1. There are areas in the curriculum, however, that are not found in the standards for Algebra 1, or any course beyond. For example, Lessons 3.1.1 and 3.1.2 focus on laws of exponents and is said to be aligned to A1: A-SSE.B.3c. This standard calls for the properties of exponents to be used in order to transform expressions for exponential functions. Secondly, Lesson 5.2.3 is said to be aligned with A1: F-IF.A.3 but focuses on recursive sequences, which is not a topic in the LSSM for Algebra 1. Another example can be found in Lesson 3.3.1 where students are solving Absolute Value Equations. Another place in the materials that is not part of the LSSM for Algebra 1 is found in Lesson 7.2.1, with the introduction of rational exponents and converting expressions with rational exponents to radical form. This happens again in Lesson 10.3.3, which focuses on solving quadratic and absolute value inequalities. The standard listed with the Lesson by the publisher is A1: A-REI.B.3; however, this standard only includes linear equations and inequalities. Such skills are beyond the scope of Algebra 1.

[1] For more on the major work of the grade, see Focus by Grade Level.

[2] 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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			There are sample unit assessment items that are not aligned to the LSSM for Algebra 1; however, they are not ever included in the LSSM for Geometry or Algebra 2. For instance, Item #7 on the Chapter 3 sample assessment and Item 3b on the Chapter 6 sample assessment require students to solve absolute value equations. In addition, Chapter 11 sample assessment, Item 3a requires students to solve an absolute value inequality.
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**	Meaningful connections are made between supporting content and major work throughout Algebra 1. Lesson 7.1.6 requires students to construct exponential functions given a graph (A1: F-LE.2) and interpret the parameters in an exponential function in terms of context (A1: F-LE.B.5) while having students create equations and use them to solve problems (A1: A-CED.A.1). Another example can be found in Lesson 8.2.1 where students are graphing quadratic functions to show intercepts, maxima, and minima (A1: F-IF.C.7a), comparing properties of quadratic functions represented in different ways (A1: F-IF.C.9), and are interpreting the intercepts of the quadratic model (A1: F-IF.B.4). It is important to note that 4 out of 8 lessons (50%) in Chapter 4 focus only on additional work. In addition, Chapter 6 has 5 out of 9 (56%) lessons that focus on supporting standards only.
	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**	Materials make natural and important connections between many of the mathematical topics covered in Algebra 1. These connections are meaningful and are made across domains as well as across clusters within domains. For example, Lesson 3.3.2 connects different domains by connecting A1: A-APR.A.1 and A1: A-REI.B.3. Another example of meaningful connections made across domains is in Lessons 7.1.5 and 7.1.6. Students are creating equations from graphs and situations as well as creating graphs from equations. This connects major standards A1: A-CED.A.1, A1: A-CED.A.2, and A1: F-IF.B.4. For example, Lesson 3.3.2 connects different domains by connecting A1: A-APR.A.1 and A1: A-REI.B.3.

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			Lesson 10.2.2 connects two clusters in the Representing Equations and Inequalities domain by having students explain each step and construct viable arguments to justify a solution method (A1: A-REI.A.1) while they solve the linear equation (A1: A-REI.B.3).
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 amply featuring high-quality conceptual problems and discussion questions.	**Yes**	Important mathematical ideas are developed conceptually, where appropriate. Most lessons begin with explorations that focus on conceptual understanding. For example, in Lesson 3.2.1, students use algebraic tiles to assist with the solving of equations by only using "legal moves" to determine a rationale for the next step and end solution for the given equation (A1: A-REI.A.1). Additionally, Lesson 8.1.5 (A1: A-SSE.A.2) has students factor quadratics and look for similarities and differences among the expressions. Then students are given quadratics and have to tell which expressions fit the pattern found when they factored. The lesson goes on to talk about difference of two squares and perfect square trinomial. Another lesson that shows conceptual understanding is Lesson 10.3.1 and addresses Standard A1: A-REI.D.11. It has linear and quadratic functions and has students distinguish between intercepts and intersections where students have to explain their reasoning.
	REQUIRED **3b) *Attention to Procedural Skill and Fluency:*** The materials are designed so that students attain the fluencies and procedural skills required by the 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 provide sufficient opportunities for students to develop procedural skills required by the standards. Every lesson has a Review and Preview section that focuses on Procedural Skill. For example, Lessons 9.1.1-9.1.4 highlights the procedural skill and fluency expectation of procedural A1: A-REI.B.4, providing students with numerous practice with solving quadratics using different methods. Another example comes from the major content Standard A1: F-LE.A.2 where students are required to construct linear and exponential functions from graphs, descriptions of relationships, two ordered pairs, or tables. In Chapter 2, students are given practice problems in this standard in Lessons 2.1.1, 2.1.2, 2.1.4, 2.2.2,

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			2.2.3, 2.3.1, and 2.3.2. Additional procedural skill practice exercises are provided in each unit's "Lesson Closure." It should be noted that while there is enough procedural skill throughout an entire unit or even in other units, there is not always adequate practice solely in the lesson where the standard is addressed. For example, Lesson 9.3.1 focuses on solving linear inequalities in two variables by graphing (A-REI.D.12). There are a total of four problems where students are graphing linear inequalities. The next lesson, 9.3.2 does open up with a linear inequality to graph and two more linear inequalities in two variables to solve by graphing in the Review and Preview. In subsequent lessons, there are problems to support this standard but not directly in the initial lesson of instruction.
	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**	Materials allow opportunities for students to engage in application. For example, Lesson 11.2.2 emphasizes Standard A1: S-ID.A.2 in problem 11-40 where students are asked to compare a box plot and a histogram to analyze fruit sizes for a farmer's market. Another example occurs in Lesson 5.3.1 related to Standard A1: F-IF.B.6, where students compare bank accounts that grow exponentially with accounts that grow linearly. In Lesson 6.2.3 students investigate association and causation (A1: S-ID.C.9) by investigating many real life situations including experience and wages, temperature and amusement park attendance, and number of firefighters and amount of damage. There are a few things to make note of regarding application in Algebra 1 CMP. Many of the lessons begin with context that looks like application, but when looking at it more closely, it doesn't require application to understand or do mathematics. An example of this can be found in 8.2.4 (A1: A-CED.A.2 and A1: F-BF.A.1a). Students are given different scenarios and must write a solution to the customer mathematical problem. The next problem for

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			students to work through in this lesson is also given in a context; however, the answers can be given without the use of the real-world context it is set in. In addition to this, there is not always ample, individual practice for students to engage in application in non-routine problems in the Review and Preview section. Louisiana State Standard A1: A-CED.A.4 requires students to rearrange formulas to highlight a quantity of interest and should provide an opportunity for students to engage in application. There is not an opportunity for students to engage in application with this standard. Another example can be found in Lessons 9.1.3-9.1.4 which addresses A1: A-CED.A.1 and A1: A-CED.A.2. Both of these standards call for application; however, the lessons only have one or two opportunities to use application to solve the problems.
	REQUIRED **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	The course materials provide opportunities for students to meet the rigor required by the standards sometimes together, and sometimes separately. For example, in Chapter 4 students are presented with procedures for solving systems of equations using substitution and elimination and given opportunities to master these procedural skills, as required in A1: A-REI.C.6 and A-CED.A.2. Students participate in "Discussion Points" in Lessons 4.1.1 and 4.2.2, that solidify the students' conceptual understanding of the standards relating to systems of equations, like A1: A-REI.D.10, A1: A-CED.A.3 and A1: A-REI.C.5. The application component of rigor is met in all of the lessons in Chapter 4, as there are examples and problems where students see the concept in a real-world context. Lesson 4.3.1 is entitled "Pulling It All Together" and the lesson effectively presents the content with all three components of rigor required by major content Standard A1: A.CED.A.2 which requires students to create equations in two variables to represent real relationships and graph the equations. When indicated, the components of rigor are treated separately. For example, in A1: A.SSE.A.2,

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			conceptual understanding is the only component of rigor. Lessons 8.1.4 and 8.1.5 are aligned to this standard where neither lesson uses application in the instruction of this standard. Students are presented with expressions that can be factored and introduced to the concept of making sure that an expression is "factored completely." Students are asked to make predictions about expressions without factoring. Students also are introduced to "special cases of quadratics" like difference of squares. This leads to students being able to see the structure of expressions and identifying ways to rewrite them.
Non-Negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. ☒ Yes ☐ No	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the content standards of the grade/course; practices strengthen the focus on the content standards instead of detracting from them, in both teacher and student materials.	**Yes**	All lessons have Mathematical Practices listed in the Teacher Notes for the lessons. Throughout the materials, the Mathematical Practices are in many of the exploration lessons at the beginning of most lessons. In a number of the lessons, multiple Mathematical Practices are fully attended to by the student work. They have to justify their reasoning, construct viable arguments, persevere in their work, and more. For example, Lesson 3.2.2 includes a few Mathematical Practices, including MP 7 where they are making use of and looking for structure. Additionally, MP3 is evident in the process whereby students work throughout the course in teams - contributing, listening, critiquing each other, etc. For example, in Lesson 2.1, students work in teams to investigate a tile pattern, working in the F-LE cluster. This activity will require students to make claims and critique the claims of others. Every chapter has a closure that includes a section entitled, "Evidence of Mathematical Proficiency" and "What Have I Learned?" There are questions listed there that reflect the Mathematical Practices. Additionally, In the "Evidence of Mathematical Proficiency" section of Chapters 3, 7 and 11, the student is asked to make specific connections between the Mathematical Practices and the content from the chapter.
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY			

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Additional Criterion **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 course-level problems. Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**No**	Review of material from previous grades and courses is not clearly identified as such to the teacher in the teacher or student materials. For example, in Lesson 1.1.1 in the Review and Preview section, the student must evaluate absolute value expressions (1-5) and simplify expressions (1-7). In the Lesson Notes to the teacher, these problem sets are included in the suggested homework. Secondly, Lesson 1.1.3 features the graph of quadratic functions; however problem set question 1-27 asks students to draw the lines of symmetry of a figure (4.G.A.3). Another example can be found in Lesson 3.2.3. Students begin work around multiplying binomials and have some problems using Distributive Property, a 6th grade LSSM standard (6.EE.A.3). They are not identified in the teacher materials, nor the student materials this is review material from previous courses. The problem set also includes a number of problems from prior grades. 3-60 involves solving proportions and 3-63 requires the students to add, subtract, multiply, and divide rational numbers (7.NS.A.1 and 7.NS.A.2). Both of these problem sets are included in the suggested homework assignment in the Teacher Notes for the lesson. Lastly, Lesson 9.2.1 begins with an activity in which students determine if their number makes an equation or inequality true (6.EE.B.5). Problem set 9.53 gives numerical inequalities and has students determine if it is always, sometimes, or never true. It is not clearly stated in the teacher and/or student materials that this is review work from previous grades. Although review material is not clearly stated, it should be noted that teacher materials have a chapter outline of each chapter in the table of contents. The chapter openings explain an overview of the expectations of the chapter, and the beginning of each lesson outlines what the student will be doing. For example, the beginning of Lesson 5.3.1 states, “In this lesson you will compare patterns of growth rates to each other. This work will also help you write equations for exponential

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			sequences in the next lesson." The opening statements of Chapter 10 states, "In Chapter 10, you will extend your solving skills to include other types of equations, including equations with square roots, absolute values, variables in exponents, and messy fractions."
	REQUIRED **5b)** Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**Yes**	Materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge students need to obtain. For example, the opening of Lesson 4.1.2 states, "Today you will represent a word problem with two equations. You will also explore how to use the Equal Values Method to solve systems containing equations that are not in y = mx + b form." The lesson is extending the students prior knowledge about the linear equation and expecting the student to be able to solve systems of linear equations written in a different form. Despite it not being clearly marked as review material, Lesson 3.2.3 scaffolds material in a meaningful way from 6th grade (6.EE.A.3) to begin work with multiplying binomials. A last example is found in Lesson 9.1.1 with Quadratic Functions. The prior learning is identified as occurring in Chapter 8 where students learned to find the x-intercepts of a parabola. Students are told they will now build on that concept and learn how to solve a variety of quadratic equations. In the prior lesson, 8.2.5, students reviewed the zero product property as a preview to Lesson 9.1.1.
	5c) Materials base content progressions on the progressions in the Standards.	**Yes**	Materials base content progressions on the progressions in the standards. According to "Correlation of CPM Core Connections Algebra to Louisiana Student Standards for Algebra I", the course is structured to provide for the standards being "implemented, applied and practiced throughout subsequent lessons." Every Chapter Opening has a "Where Is This Going?" section in the teacher materials. This is helpful to see the progressions of the course and how they tie into the progressions in the standards.

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	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.	**Yes**	Learning objectives are shaped with language found in the LSSM cluster headings and standards for Algebra 1. For example, Chapter 5 focuses on arithmetic and geometric growth and using that to begin understanding around linear and exponential patterns. In the LSSM for Algebra 1, the F-LE standards have words such as compare and recognize. The Chapter opening has four main objectives for the lesson. One of the objectives includes that "students will recognize the connections between arithmetic and geometric sequences and linear and exponential functions". This can also be found in Chapter 6, which focuses on statistical models. In the Chapter opening, the words, "interpret the slope and y-intercept" is found as an objective of the Chapter. This is similar language found in Standard A1: S-ID.C.
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives.	**Yes**	Materials preserve the focus, coherence, and rigor of the Standards. Coherence is a strong component of materials, in that connections are given in chapter openings. Each chapter has a "Where Is This Going Section?" so that the teacher can see the connections to future coursework in Algebra 1. All components of rigor are appropriately used to master objectives, which are directly linked to the LSSM for Algebra 1.
Additional Criterion **6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE:** Aligned materials make meaningful and purposeful connections that enhance the focus and coherence of the Standards rather than detract from the focus and include additional content/skills to teach which are not included in the Standards.	**REQUIRED** **6a)** Materials attend to the full meaning of each practice standard. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standard. Alignments to practice standards are accurate.	**Yes**	Each mathematical practice standard is meaningfully present in various forms. In the Teachers' Edition, CCSS Standards for Mathematical Practice in CPM Core Connections Courses outlines how the course addresses each mathematical practice standard. In addition, the student materials begin each chapter with a guiding question that is associated with one or multiple practice standards. For example, at the beginning of Chapter 1 the guiding question states, "Mathematically proficient students model with mathematics. As you work through this chapter, ask yourself: Can I identify important quantities in situations and describe their situations using graphs?" This can also be found in Chapter 4 where students are asked to attend to precision (MP.6) as they use correct vocabulary and clear explanations

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☒ Yes ☐ No			in discussions while paying attention to small details. In Lesson 4.2.4, students are asked to explain how to eliminate variables in a system of equations with their teammates. MP.1 is evident in the presentation of the realistic problems present in each lesson. Throughout the course, content is introduced with application problems, as opposed to only being in problem sets typically found at the end of a lesson. Students will develop the ability to make sense of problems and persevere in solving them. For example, Chapter 5 studies exponential functions; students are presented with content in rich, authentic problem-solving situations. Additionally, in the closure sections in Chapters 3, 7, and 11 the student is asked to reflect on the standards of mathematical practice and identify when they were used throughout the chapter.
	REQUIRED **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-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 do provide sufficient opportunities for students to construct viable arguments and critique the arguments of others reflected in MP3. According to the CCSS Standards for Mathematical Practice in CPM Core Connections Courses, students "regularly share information, opinions, and their knowledge and understandings in study teams. They take turns contributing, listening, arguing, asking for help, checking for understanding, and keeping each other focused." An example of this can be found in Lesson 4.2.4 where the student must carefully examine a system of equations. The problem states, "With your team, propose a way to combine these equations so that you eventually have one equation with one variable. Be prepared to share your proposal with the class." The same thing can be found in Lesson 9.1.4. Teams must decide which strategy is most appropriate to solve a quadratic equation. This process will require students to discuss, listen to the ideas of others, and come to a consensus in order to proceed with their lesson.
	6c) There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.	**Yes**	Throughout the course, teacher-directed materials explain the role of the practice standards in the students' mathematical development. For example, the Correlation of CPM Core Connections Algebra to

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			CCSS Mathematical Practices is a guide that "lists sample lessons that the reader can review to see how CCSS Standards for Mathematical Practice are embedded in all the lessons". Additionally, at the beginning of each chapter overview in the teacher notes is a section that outlines how the chapter content will relate to the mathematical practices. There is also a teacher resource titled, CCSS Standards for Mathematical Practice in CPM Core Connections Courses. It outlines how the Mathematical Practices are an integral part of CPM as well as the core of the curriculum.
	6d) Materials explicitly attend to the specialized language of mathematics.	**Yes**	The materials explicitly attend to the specialized language of mathematics. This can be found in each of the guiding questions that reflect the mathematical practices at the beginning of the chapters. For example, the guiding question of Chapter 6 states, "Mathematically proficient students model with mathematics. As you work through this chapter, ask yourself: Can I model relationships mathematically in order to describe, analyze, make predictions, and draw conclusions about a set of data?" Additionally, the specialized language of mathematics can be found in the section outlines of the opening of the chapters. For instance, the description of Lesson 8.1 is as follows: "In this section, you will develop a method to change a quadratic equation written as a sum into its product form (also called its factored form). Then you will learn shortcuts for factoring some quadratics." Lastly, Lesson 10.2.5 requires students derive the quadratic formula and discover imaginary numbers. Important mathematical language terms such as rational numbers, irrational numbers, solutions, standard form, simplify, solve, quadratic polynomial, exact, and decimal approximation are all used.
Additional Criterion **7. INDICATORS OF QUALITY:** Quality materials should exhibit the indicators outlined here in order to	**REQUIRED** **7a)** There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way,	**Yes**	There is variety in what students are expected to produce. Looking at Chapter 3, students produce the following: answers and solutions, their own problems, explanations of patterns discovered, Learning Log, algebra tile models, rectangle

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give teachers and students the tools they need to meet the expectations of the Standards. ☒ Yes ☐ No	arguments and explanations, diagrams, mathematical models, etc.		diagrams, justifications, and a concept map. In the sample assessments, students are required to produce a variety in the components of rigor. For example, in the sample assessment for Chapter 5 students are expected to solve systems of equations, explain what the solution of the equations mean, answer questions based in conceptual understanding, and find the errors of a solution.
	REQUIRED **7b)** There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Yes**	There are separate teacher materials available to support the teacher. The Teacher Notes for each lesson include a Lesson Mathcast Video to help guide teachers through the expectations of the lessons. The Suggested Lesson Activity section in the Teacher Notes guides the teacher in the implementation of the lesson; including guided questioning. For example, the Suggested Lesson Activity for Lesson 1.2.5 states, "Ask them, "Does y = 5 have a point? Is y = 0 a possible output? What about y = –3? How can we describe all the outputs of this relation?" Additionally, suggested Team Strategies and suggested Homework is included with each lesson.
	7c) Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	**Yes**	Support for ELL and of special populations is included in the materials. For example, under the Universal Access section are several tabs to assist the teacher in reaching all students. Included in the tabs are Normal Progress, Additional Help, Unprepared Students, Special Needs, English Learners, Advanced Learners, and Study Teams. Most of the tabs give very general suggestions to the teacher to help the student move through the course successfully. However, under the Unprepared Students tab it states, "Encourage parents to use the Parent Guide with Extra Practice in booklet form or online at www.cpm.org to assist their child." This statement includes a link to extra practice that could be helpful to the student who needs additional practice. The Parent Guide with Extra Practice is also suggested for students with "special needs". Additionally, every lesson is available in full Spanish and English. This is a great

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			feature for ELL students who speak Spanish. It is important to note that although the resources above provide the teacher with strategies to help ELL students with things such as working in team, there aren't specific strategies per lesson to help in these situations. Overall, the strategy recommendations are generic in nature and are not specific for presentation of specific content.
	7d) The underlying design of the materials distinguishes between problems and exercises. In essence the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	**Yes**	The design of the materials distinguishes between problems and exercises. Each lesson has problems that students solve, usually with their learning teams, to learn the new concepts presented in the lesson. After this, there is a "Review and Preview" section that includes exercises that are designed for practice. For example, in Lesson 4.1.2, students work six problems where they are required to write and solve equations. Then, the "Review and Preview" section of the lesson contains opportunities for students to work problems that are in the lesson as well as problems that are review. This process of problem solving for new concepts followed by exercises designed for practice in many different concepts is present in every lesson throughout the course.
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Yes**	Lessons are appropriately structured and scaffolded to support student mastery. The progression of lessons ensures students have the prerequisite skills necessary to master new objectives. For example, Lessons 3.1.1 and 3.1.2 focus on properties of exponents, which is necessary for student understanding of operations with polynomials. In Lessons 3.2.1 and 3.2.2, students are introduced to multiplying binomials using the idea of an area model and distributive property. Lastly, Lesson 8.1.1 begins with bringing back the area model and algebra tiles to represent quadratics. The lesson contains five lessons that are presented in a logical order where students are able to build on prior learning to continue to extend to a full understanding of factoring polynomial expressions.
	7f) Materials support the uses of technology as called for	**No**	Technology is specifically referenced in A1: A-

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	in the Standards.		REI.D.11, A1: F-IF.C.7, A1: F-BF.B.3, and A1: S-ID.C.8. In reviewing the lesson listed as aligned to these standards, the only lesson that specifically uses technology is Lesson 6.2.2, aligned to A1: S-ID.C.8. In this lesson, students complete an exploration using their graphing calculator to compute and interpret the correlation coefficient of given data. For the other standards, the aligned lessons do not include references to or instruction in the use of technology. On the contrary, in Lesson 10.3.2, which is aligned to A1: A-REI.D.11, there is actually instruction for students to not use graphing technology in the completion of problem 10-122, other than to check solutions.

FINAL EVALUATION

Tier 1 ratings receive a "Yes" in Column 1 for Criteria 1 – 7.

Tier 2 ratings receive a "Yes" in Column 1 for all non-negotiable criteria (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.

Tier 3 ratings receive a "No" in Column 1 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.

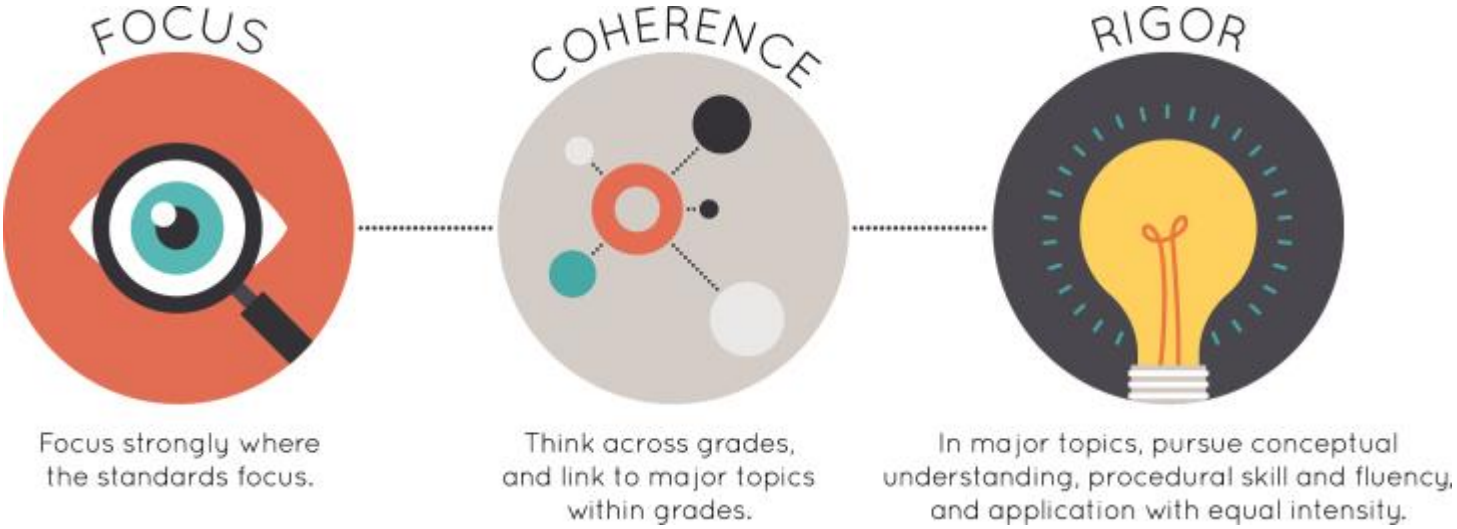
Section	Criteria	Yes/No	Final Justification/Comments
I: Non-Negotiables	1. Focus on Major Work	**Yes**	The Correlation of CPM Core Connections Algebra to Louisiana Student Standards for Algebra 1 indicates 72% of the time is spent on the major content of Algebra 1. Minimal time is spent outside of Algebra 1.
	2. Consistent, Coherent Content	**Yes**	Meaningful connections are made between supporting content and major work for Algebra 1. Materials make natural and important connections across domains as well as across clusters within domains.
	3. Rigor and Balance	**Yes**	All three aspects (Conceptual, Fluency, and Application) are present and meaningful to the coursework in Algebra 1. The components of rigor are also balanced throughout the materials.
	4. Focus and Coherence via Practice Standards	**Yes**	The Mathematical Practice Standards are being utilized throughout the materials. The teacher guide explicitly gives which MP's are being used in each lesson.
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**No**	Although previous coursework is used to introduce grade level count, review material is not clearly

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			identified to the teacher. There is review material throughout the classwork as well as the Review and Preview of each Chapter.
	6. Alignment Criteria for Standards for Mathematical Practice	**Yes**	The Mathematical Practices are present and meaningful throughout the materials. They enhance the focus and coherence of the LSSM for Algebra I.
	7. Indicators of Quality	**Yes**	Materials provide teachers with quality resources in order to aid in the delivery of the curriculum. There are places where technology should be used according to the standards but was only found in a minimal number of places where those standards are found.
FINAL DECISION FOR THIS MATERIAL: **Tier II, Approaching quality**			

Appendix I.

Publisher Response

Strong mathematics instruction contains the following elements:



Title: **Core Connections Algebra**

Grade/Course: **Algebra**

Publisher: **CPM Educational Program**

Copyright: **2016**

Overall Rating: **Tier II, Approaching quality**

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

STRONG	WEAK
1. Focus on Major Work (Non-Negotiable)	5. Alignment Criteria for Stnds. for Math Content
2. Consistent, Coherent Content (Non-Negotiable)	
3. Rigor and Balance (Non-Negotiable)	
4. Focus Coh. via Practice Std (Non-Negotiable)	
6. Alignment Criteria for Stnds. for Math Practice	
7. Indicators of Quality	

To evaluate each set of submitted materials for alignment with the Standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria in Section I. If there is a "Yes" for all indicators in Column 2 for Section I, then the materials receive a "Yes" in Column 1. If there is a "No" for any indicator in Column 2 for Section I, then the materials receive a "No" in Column 1.

For Section II, begin by reviewing the required indicators in Column 2 for each criterion. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicators in Column 2, then the materials receive a "No" in Column 1.

Tier 1 ratings receive a "Yes" in Column 1 for Criteria 1 – 7.
Tier 2 ratings receive a "Yes" in Column 1 for all non-negotiable criteria (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria.
Tier 3 ratings receive a "No" in Column 1 for at least one of the non-negotiable criteria.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
SECTION I: NON-NEGOTIABLE CRITERIA: Submissions must meet all of the non-negotiable criteria in order for the review to continue.				
Non-Negotiable **1. FOCUS ON MAJOR WORK[1]:** Students and teachers using the materials as designed devote the large majority[2] of time to the major work of the grade/course. ☒ Yes ☐ No	**REQUIRED** **1a)** Materials should devote the large majority of class time to the major work of each grade/course. Each grade/course must meet the criterion; do not average across two or more grades.	**Yes**	The majority of the content is correlated to major work. Based on the Correlation of CPM Core Connections Algebra to Louisiana Student Standards for Algebra 1, there are 103 lessons. 74 out of the 103 (72%) lessons are spent on priority content. For example, Lesson 3.3.2 focuses on solving literal equations (A1: A-REI.A.4). Another example of Major Work of Algebra 1 can be found in Lesson 5.3.3 where students recognize sequences as functions (A1: F-IF.A.3).	
	REQUIRED **1b)** In any one grade/course, instructional materials should spend minimal time on content outside of the appropriate grade/course. Previous grade/course content should be used only for scaffolding instruction. In assessment materials there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any topics before the grade/course in which they are introduced in the Standards.	**Yes**	There is minimal time spent on content outside of Algebra 1. There are areas in the curriculum, however, that are not found in the standards for Algebra 1, or any course beyond. For example, Lessons 3.1.1 and 3.1.2 focus on laws of exponents and is said to be aligned to A1: A-SSE.B.3c. This standard calls for the properties of exponents to be used in order to transform expressions for exponential functions. Secondly, Lesson 5.2.3 is said to be aligned with A1: F-IF.A.3 but focuses on recursive sequences, which is not a topic in the LSSM for Algebra 1. Another example can be found in Lesson 3.3.1 where students are solving Absolute Value Equations. Another place in the materials that is not part of the LSSM for Algebra 1 is found in Lesson 7.2.1, with the introduction of rational exponents and converting expressions with rational exponents to radical form. This happens again in Lesson 10.3.3, which focuses on solving quadratic and absolute value inequalities. The standard listed with the Lesson by the publisher is A1: A-REI.B.3; however, this standard only includes linear equations and inequalities. Such skills are beyond the scope of Algebra 1.	

[1] For more on the major work of the grade, see Focus by Grade Level.
[2] 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	PUBLISHER RESPONSE
			There are sample unit assessment items that are not aligned to the LSSM for Algebra 1; however, they are not ever included in the LSSM for Geometry or Algebra 2. For instance, Item #7 on the Chapter 3 sample assessment and Item 3b on the Chapter 6 sample assessment require students to solve absolute value equations. In addition, Chapter 11 sample assessment, Item 3a requires students to solve an absolute value inequality.	
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**	Meaningful connections are made between supporting content and major work throughout Algebra 1. Lesson 7.1.6 requires students to construct exponential functions given a graph (A1: F-LE.2) and interpret the parameters in an exponential function in terms of context (A1: F-LE.B.5) while having students create equations and use them to solve problems (A1: A-CED.A.1). Another example can be found in Lesson 8.2.1 where students are graphing quadratic functions to show intercepts, maxima, and minima (A1: F-IF.C.7a), comparing properties of quadratic functions represented in different ways (A1: F-IF.C.9), and are interpreting the intercepts of the quadratic model (A1: F-IF.B.4). It is important to note that 4 out of 8 lessons (50%) in Chapter 4 focus only on additional work. In addition, Chapter 6 has 5 out of 9 (56%) lessons that focus on supporting standards only.	
	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**	Materials make natural and important connections between many of the mathematical topics covered in Algebra 1. These connections are meaningful and are made across domains as well as across clusters within domains. For example, Lesson 3.3.2 connects different domains by connecting A1: A-APR.A.1 and A1: A-REI.B.3. Another example of meaningful connections made across domains is in Lessons 7.1.5 and 7.1.6. Students are creating equations from graphs and situations as well as creating graphs from equations. This connects major standards A1: A-CED.A.1, A1: A-CED.A.2, and A1: F-IF.B.4. For example, Lesson 3.3.2 connects different domains by connecting A1: A-APR.A.1 and A1: A-REI.B.3.	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			Lesson 10.2.2 connects two clusters in the Representing Equations and Inequalities domain by having students explain each step and construct viable arguments to justify a solution method (A1: A-REI.A.1) while they solve the linear equation (A1: A-REI.B.3).	
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 amply featuring high-quality conceptual problems and discussion questions.	**Yes**	Important mathematical ideas are developed conceptually, where appropriate. Most lessons begin with explorations that focus on conceptual understanding. For example, in Lesson 3.2.1, students use algebraic tiles to assist with the solving of equations by only using "legal moves" to determine a rationale for the next step and end solution for the given equation (A1: A-REI.A.1). Additionally, Lesson 8.1.5 (A1: A-SSE.A.2) has students factor quadratics and look for similarities and differences among the expressions. Then students are given quadratics and have to tell which expressions fit the pattern found when they factored. The lesson goes on to talk about difference of two squares and perfect square trinomial. Another lesson that shows conceptual understanding is Lesson 10.3.1 and addresses Standard A1: A-REI.D.11. It has linear and quadratic functions and has students distinguish between intercepts and intersections where students have to explain their reasoning.	
	REQUIRED **3b)** ***Attention to Procedural Skill and Fluency:*** The materials are designed so that students attain the fluencies and procedural skills required by the 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 provide sufficient opportunities for students to develop procedural skills required by the standards. Every lesson has a Review and Preview section that focuses on Procedural Skill. For example, Lessons 9.1.1-9.1.4 highlights the procedural skill and fluency expectation of procedural A1: A-REI.B.4, providing students with numerous practice with solving quadratics using different methods. Another example comes from the major content Standard A1: F-LE.A.2 where students are required to construct linear and exponential functions from graphs, descriptions of relationships, two ordered pairs, or tables. In Chapter 2, students are given practice problems in this standard in Lessons 2.1.1, 2.1.2, 2.1.4, 2.2.2,	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			2.2.3, 2.3.1, and 2.3.2. Additional procedural skill practice exercises are provided in each unit's "Lesson Closure." It should be noted that while there is enough procedural skill throughout an entire unit or even in other units, there is not always adequate practice solely in the lesson where the standard is addressed. For example, Lesson 9.3.1 focuses on solving linear inequalities in two variables by graphing (A-REI.D.12). There are a total of four problems where students are graphing linear inequalities. The next lesson, 9.3.2 does open up with a linear inequality to graph and two more linear inequalities in two variables to solve by graphing in the Review and Preview. In subsequent lessons, there are problems to support this standard but not directly in the initial lesson of instruction.	
	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**	Materials allow opportunities for students to engage in application. For example, Lesson 11.2.2 emphasizes Standard A1: S-ID.A.2 in problem 11-40 where students are asked to compare a box plot and a histogram to analyze fruit sizes for a farmer's market. Another example occurs in Lesson 5.3.1 related to Standard A1: F-IF.B.6, where students compare bank accounts that grow exponentially with accounts that grow linearly. In Lesson 6.2.3 students investigate association and causation (A1: S-ID.C.9) by investigating many real life situations including experience and wages, temperature and amusement park attendance, and number of firefighters and amount of damage. There are a few things to make note of regarding application in Algebra 1 CMP. Many of the lessons begin with context that looks like application, but when looking at it more closely, it doesn't require application to understand or do mathematics. An example of this can be found in 8.2.4 (A1: A-CED.A.2 and A1: F-BF.A.1a). Students are given different scenarios and must write a solution to the customer mathematical problem. The next problem for	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			students to work through in this lesson is also given in a context; however, the answers can be given without the use of the real-world context it is set in. In addition to this, there is not always ample, individual practice for students to engage in application in non-routine problems in the Review and Preview section. Louisiana State Standard A1: A-CED.A.4 requires students to rearrange formulas to highlight a quantity of interest and should provide an opportunity for students to engage in application. There is not an opportunity for students to engage in application with this standard. Another example can be found in Lessons 9.1.3-9.1.4 which addresses A1: A-CED.A.1 and A1: A-CED.A.2. Both of these standards call for application; however, the lessons only have one or two opportunities to use application to solve the problems.	
	REQUIRED **3d) *Balance:*** The three aspects of rigor are not always treated together and are not always treated separately.	**Yes**	The course materials provide opportunities for students to meet the rigor required by the standards sometimes together, and sometimes separately. For example, in Chapter 4 students are presented with procedures for solving systems of equations using substitution and elimination and given opportunities to master these procedural skills, as required in A1: A-REI.C.6 and A-CED.A.2. Students participate in "Discussion Points" in Lessons 4.1.1 and 4.2.2, that solidify the students' conceptual understanding of the standards relating to systems of equations, like A1: A-REI.D.10, A1: A-CED.A.3 and A1: A-REI.C.5. The application component of rigor is met in all of the lessons in Chapter 4, as there are examples and problems where students see the concept in a real-world context. Lesson 4.3.1 is entitled "Pulling It All Together" and the lesson effectively presents the content with all three components of rigor required by major content Standard A1: A.CED.A.2 which requires students to create equations in two variables to represent real relationships and graph the equations. When indicated, the components of rigor are treated separately. For example, in A1: A.SSE.A.2,	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			conceptual understanding is the only component of rigor. Lessons 8.1.4 and 8.1.5 are aligned to this standard where neither lesson uses application in the instruction of this standard. Students are presented with expressions that can be factored and introduced to the concept of making sure that an expression is "factored completely." Students are asked to make predictions about expressions without factoring. Students also are introduced to "special cases of quadratics" like difference of squares. This leads to students being able to see the structure of expressions and identifying ways to rewrite them.	
Non-Negotiable **4. FOCUS AND COHERENCE VIA PRACTICE STANDARDS:** Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards. ☒ Yes ☐ No	**REQUIRED** **4a)** Materials address the practice standards in such a way as to enrich the content standards of the grade/course; practices strengthen the focus on the content standards instead of detracting from them, in both teacher and student materials.	**Yes**	All lessons have Mathematical Practices listed in the Teacher Notes for the lessons. Throughout the materials, the Mathematical Practices are in many of the exploration lessons at the beginning of most lessons. In a number of the lessons, multiple Mathematical Practices are fully attended to by the student work. They have to justify their reasoning, construct viable arguments, persevere in their work, and more. For example, Lesson 3.2.2 includes a few Mathematical Practices, including MP 7 where they are making use of and looking for structure. Additionally, MP3 is evident in the process whereby students work throughout the course in teams - contributing, listening, critiquing each other, etc. For example, in Lesson 2.1, students work in teams to investigate a tile pattern, working in the F-LE cluster. This activity will require students to make claims and critique the claims of others. Every chapter has a closure that includes a section entitled, "Evidence of Mathematical Proficiency" and "What Have I Learned?" There are questions listed there that reflect the Mathematical Practices. Additionally, In the "Evidence of Mathematical Proficiency" section of Chapters 3, 7 and 11, the student is asked to make specific connections between the Mathematical Practices and the content from the chapter.	
SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY				

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
Additional Criterion **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 course-level problems. Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**No**	Review of material from previous grades and courses is not clearly identified as such to the teacher in the teacher or student materials. For example, in Lesson 1.1.1 in the Review and Preview section, the student must evaluate absolute value expressions (1-5) and simplify expressions (1-7). In the Lesson Notes to the teacher, these problem sets are included in the suggested homework. Secondly, Lesson 1.1.3 features the graph of quadratic functions; however problem set question 1-27 asks students to draw the lines of symmetry of a figure (4.G.A.3). Another example can be found in Lesson 3.2.3. Students begin work around multiplying binomials and have some problems using Distributive Property, a 6th grade LSSM standard (6.EE.A.3). They are not identified in the teacher materials, nor the student materials this is review material from previous courses. The problem set also includes a number of problems from prior grades. 3-60 involves solving proportions and 3-63 requires the students to add, subtract, multiply, and divide rational numbers (7.NS.A.1 and 7.NS.A.2). Both of these problem sets are included in the suggested homework assignment in the Teacher Notes for the lesson. Lastly, Lesson 9.2.1 begins with an activity in which students determine if their number makes an equation or inequality true (6.EE.B.5). Problem set 9.53 gives numerical inequalities and has students determine if it is always, sometimes, or never true. It is not clearly stated in the teacher and/or student materials that this is review work from previous grades. Although review material is not clearly stated, it should be noted that teacher materials have a chapter outline of each chapter in the table of contents. The chapter openings explain an overview of the expectations of the chapter, and the beginning of each lesson outlines what the student will be doing. For example, the beginning of Lesson 5.3.1 states, “In this lesson you will compare patterns of growth rates to each other. This work will also help you write equations for exponential	Because math builds upon previously learned topics and skills, it would be overly cumbersome to list every standard from a previous course. For instance, the problem referenced, 1-5, not only reviews absolute value but also adding and subtracting of integers, adding and subtracting of rational numbers, adding and subtracting of decimal numbers. To understand any of these standards, a student must also have mastered the previous standards of understanding operations, understanding what a number is, etc. The CPM content covers the grade level standards and builds on previous learned standards. Problems in the Review & Preview are designed to allow for practice of necessary skills needed to build the new learning on what was learned before. We consider this an integral part of course design and do not call attention to it.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
			sequences in the next lesson." The opening statements of Chapter 10 states, "In Chapter 10, you will extend your solving skills to include other types of equations, including equations with square roots, absolute values, variables in exponents, and messy fractions."	
	REQUIRED **5b)** Materials relate course-level concepts explicitly to prior knowledge from earlier grades and courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**Yes**	Materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge students need to obtain. For example, the opening of Lesson 4.1.2 states, "Today you will represent a word problem with two equations. You will also explore how to use the Equal Values Method to solve systems containing equations that are not in y = mx + b form." The lesson is extending the students prior knowledge about the linear equation and expecting the student to be able to solve systems of linear equations written in a different form. Despite it not being clearly marked as review material, Lesson 3.2.3 scaffolds material in a meaningful way from 6th grade (6.EE.A.3) to begin work with multiplying binomials. A last example is found in Lesson 9.1.1 with Quadratic Functions. The prior learning is identified as occurring in Chapter 8 where students learned to find the x-intercepts of a parabola. Students are told they will now build on that concept and learn how to solve a variety of quadratic equations. In the prior lesson, 8.2.5, students reviewed the zero product property as a preview to Lesson 9.1.1.	
	5c) Materials base content progressions on the progressions in the Standards.	**Yes**	Materials base content progressions on the progressions in the standards. According to "Correlation of CPM Core Connections Algebra to Louisiana Student Standards for Algebra I", the course is structured to provide for the standards being "implemented, applied and practiced throughout subsequent lessons." Every Chapter Opening has a "Where Is This Going?" section in the teacher materials. This is helpful to see the progressions of the course and how they tie into the progressions in the standards.	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
	5d) Materials include learning objectives that are visibly shaped by CCSSM cluster headings and/or standards.	**Yes**	Learning objectives are shaped with language found in the LSSM cluster headings and standards for Algebra 1. For example, Chapter 5 focuses on arithmetic and geometric growth and using that to begin understanding around linear and exponential patterns. In the LSSM for Algebra 1, the F-LE standards have words such as compare and recognize. The Chapter opening has four main objectives for the lesson. One of the objectives includes that "students will recognize the connections between arithmetic and geometric sequences and linear and exponential functions". This can also be found in Chapter 6, which focuses on statistical models. In the Chapter opening, the words, "interpret the slope and y-intercept" is found as an objective of the Chapter. This is similar language found in Standard A1: S-ID.C.	
	5e) Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives.	**Yes**	Materials preserve the focus, coherence, and rigor of the Standards. Coherence is a strong component of materials, in that connections are given in chapter openings. Each chapter has a "Where Is This Going Section?" so that the teacher can see the connections to future coursework in Algebra 1. All components of rigor are appropriately used to master objectives, which are directly linked to the LSSM for Algebra 1.	
Additional Criterion **6. ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE:** Aligned materials make meaningful and purposeful connections that enhance the focus and coherence of the Standards rather than detract from the focus and include additional content/skills to teach which are not included in the Standards.	**REQUIRED** **6a)** Materials attend to the full meaning of each practice standard. Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standard. Alignments to practice standards are accurate.	**Yes**	Each mathematical practice standard is meaningfully present in various forms. In the Teachers' Edition, CCSS Standards for Mathematical Practice in CPM Core Connections Courses outlines how the course addresses each mathematical practice standard. In addition, the student materials begin each chapter with a guiding question that is associated with one or multiple practice standards. For example, at the beginning of Chapter 1 the guiding question states, "Mathematically proficient students model with mathematics. As you work through this chapter, ask yourself: Can I identify important quantities in situations and describe their situations using graphs?" This can also be found in Chapter 4 where students are asked to attend to precision (MP.6) as they use correct vocabulary and clear explanations	

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES	PUBLISHER RESPONSE
☒ Yes ☐ No			in discussions while paying attention to small details. In Lesson 4.2.4, students are asked to explain how to eliminate variables in a system of equations with their teammates. MP.1 is evident in the presentation of the realistic problems present in each lesson. Throughout the course, content is introduced with application problems, as opposed to only being in problem sets typically found at the end of a lesson. Students will develop the ability to make sense of problems and persevere in solving them. For example, Chapter 5 studies exponential functions; students are presented with content in rich, authentic problem-solving situations. Additionally, in the closure sections in Chapters 3, 7, and 11 the student is asked to reflect on the standards of mathematical practice and identify when they were used throughout the chapter.	
	REQUIRED **6b)** Materials provide sufficient opportunities for students to construct viable arguments and critique the arguments of others concerning key grade-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 do provide sufficient opportunities for students to construct viable arguments and critique the arguments of others reflected in MP3. According to the CCSS Standards for Mathematical Practice in CPM Core Connections Courses, students "regularly share information, opinions, and their knowledge and understandings in study teams. They take turns contributing, listening, arguing, asking for help, checking for understanding, and keeping each other focused." An example of this can be found in Lesson 4.2.4 where the student must carefully examine a system of equations. The problem states, "With your team, propose a way to combine these equations so that you eventually have one equation with one variable. Be prepared to share your proposal with the class." The same thing can be found in Lesson 9.1.4. Teams must decide which strategy is most appropriate to solve a quadratic equation. This process will require students to discuss, listen to the ideas of others, and come to a consensus in order to proceed with their lesson.	
	6c) There are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.	**Yes**	Throughout the course, teacher-directed materials explain the role of the practice standards in the students' mathematical development. For example, the Correlation of CPM Core Connections Algebra to	

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			CCSS Mathematical Practices is a guide that "lists sample lessons that the reader can review to see how CCSS Standards for Mathematical Practice are embedded in all the lessons". Additionally, at the beginning of each chapter overview in the teacher notes is a section that outlines how the chapter content will relate to the mathematical practices. There is also a teacher resource titled, CCSS Standards for Mathematical Practice in CPM Core Connections Courses. It outlines how the Mathematical Practices are an integral part of CPM as well as the core of the curriculum.	
	6d) Materials explicitly attend to the specialized language of mathematics.	**Yes**	The materials explicitly attend to the specialized language of mathematics. This can be found in each of the guiding questions that reflect the mathematical practices at the beginning of the chapters. For example, the guiding question of Chapter 6 states, "Mathematically proficient students model with mathematics. As you work through this chapter, ask yourself: Can I model relationships mathematically in order to describe, analyze, make predictions, and draw conclusions about a set of data?" Additionally, the specialized language of mathematics can be found in the section outlines of the opening of the chapters. For instance, the description of Lesson 8.1 is as follows: "In this section, you will develop a method to change a quadratic equation written as a sum into its product form (also called its factored form). Then you will learn shortcuts for factoring some quadratics." Lastly, Lesson 10.2.5 requires students derive the quadratic formula and discover imaginary numbers. Important mathematical language terms such as rational numbers, irrational numbers, solutions, standard form, simplify, solve, quadratic polynomial, exact, and decimal approximation are all used.	
Additional Criterion **7. INDICATORS OF QUALITY:** Quality materials should exhibit the indicators outlined here in order to	**REQUIRED** **7a)** There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way,	**Yes**	There is variety in what students are expected to produce. Looking at Chapter 3, students produce the following: answers and solutions, their own problems, explanations of patterns discovered, Learning Log, algebra tile models, rectangle	

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give teachers and students the tools they need to meet the expectations of the Standards. ☒ Yes ☐ No	arguments and explanations, diagrams, mathematical models, etc.		diagrams, justifications, and a concept map. In the sample assessments, students are required to produce a variety in the components of rigor. For example, in the sample assessment for Chapter 5 students are expected to solve systems of equations, explain what the solution of the equations mean, answer questions based in conceptual understanding, and find the errors of a solution.	
	REQUIRED **7b)** There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	**Yes**	There are separate teacher materials available to support the teacher. The Teacher Notes for each lesson include a Lesson Mathcast Video to help guide teachers through the expectations of the lessons. The Suggested Lesson Activity section in the Teacher Notes guides the teacher in the implementation of the lesson; including guided questioning. For example, the Suggested Lesson Activity for Lesson 1.2.5 states, “Ask them, “Does y = 5 have a point? Is y = 0 a possible output? What about y = –3? How can we describe all the outputs of this relation?” Additionally, suggested Team Strategies and suggested Homework is included with each lesson.	
	7c) Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	**Yes**	Support for ELL and of special populations is included in the materials. For example, under the Universal Access section are several tabs to assist the teacher in reaching all students. Included in the tabs are Normal Progress, Additional Help, Unprepared Students, Special Needs, English Learners, Advanced Learners, and Study Teams. Most of the tabs give very general suggestions to the teacher to help the student move through the course successfully. However, under the Unprepared Students tab it states, “Encourage parents to use the Parent Guide with Extra Practice in booklet form or online at www.cpm.org to assist their child.” This statement includes a link to extra practice that could be helpful to the student who needs additional practice. The Parent Guide with Extra Practice is also suggested for students with “special needs”. Additionally, every lesson is available in full Spanish and English. This is a great	

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			feature for ELL students who speak Spanish. It is important to note that although the resources above provide the teacher with strategies to help ELL students with things such as working in team, there aren't specific strategies per lesson to help in these situations. Overall, the strategy recommendations are generic in nature and are not specific for presentation of specific content.	
	7d) The underlying design of the materials distinguishes between problems and exercises. In essence the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	**Yes**	The design of the materials distinguishes between problems and exercises. Each lesson has problems that students solve, usually with their learning teams, to learn the new concepts presented in the lesson. After this, there is a "Review and Preview" section that includes exercises that are designed for practice. For example, in Lesson 4.1.2, students work six problems where they are required to write and solve equations. Then, the "Review and Preview" section of the lesson contains opportunities for students to work problems that are in the lesson as well as problems that are review. This process of problem solving for new concepts followed by exercises designed for practice in many different concepts is present in every lesson throughout the course.	
	7e) Lessons are appropriately structured and scaffolded to support student mastery.	**Yes**	Lessons are appropriately structured and scaffolded to support student mastery. The progression of lessons ensures students have the prerequisite skills necessary to master new objectives. For example, Lessons 3.1.1 and 3.1.2 focus on properties of exponents, which is necessary for student understanding of operations with polynomials. In Lessons 3.2.1 and 3.2.2, students are introduced to multiplying binomials using the idea of an area model and distributive property. Lastly, Lesson 8.1.1 begins with bringing back the area model and algebra tiles to represent quadratics. The lesson contains five lessons that are presented in a logical order where students are able to build on prior learning to continue to extend to a full understanding of factoring polynomial expressions.	
	7f) Materials support the uses of technology as called for	**No**	Technology is specifically referenced in A1: A-	Core Connections Algebra contains appropriate and

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	in the Standards.		REI.D.11, A1: F-IF.C.7, A1: F-BF.B.3, and A1: S-ID.C.8. In reviewing the lesson listed as aligned to these standards, the only lesson that specifically uses technology is Lesson 6.2.2, aligned to A1: S-ID.C.8. In this lesson, students complete an exploration using their graphing calculator to compute and interpret the correlation coefficient of given data. For the other standards, the aligned lessons do not include references to or instruction in the use of technology. On the contrary, in Lesson 10.3.2, which is aligned to A1: A-REI.D.11, there is actually instruction for students to not use graphing technology in the completion of problem 10-122, other than to check solutions.	ample technology support for students and teachers. All of the student eTools for Core Connections Algebra can be found here: cpm.org/cca-etools-videos. Many of these eTools accompany lessons aligned to A1: A-REI.D.11, A1: F-IF.C.7, A1: F-BF.B.3, and A1: S-ID.C.8.
FINAL EVALUATION ***Tier 1 ratings*** receive a "Yes" in Column 1 for Criteria 1 – 7. ***Tier 2 ratings*** receive a "Yes" in Column 1 for all non-negotiable criteria (Criteria 1 – 4), but at least one "No" in Column 1 for the remaining criteria. ***Tier 3 ratings*** receive a "No" in Column 1 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-Negotiables	1. Focus on Major Work	**Yes**	The Correlation of CPM Core Connections Algebra to Louisiana Student Standards for Algebra 1 indicates 72% of the time is spent on the major content of Algebra 1. Minimal time is spent outside of Algebra 1.	
	2. Consistent, Coherent Content	**Yes**	Meaningful connections are made between supporting content and major work for Algebra 1. Materials make natural and important connections across domains as well as across clusters within domains.	
	3. Rigor and Balance	**Yes**	All three aspects (Conceptual, Fluency, and Application) are present and meaningful to the coursework in Algebra 1. The components of rigor are also balanced throughout the materials.	
	4. Focus and Coherence via Practice Standards	**Yes**	The Mathematical Practice Standards are being utilized throughout the materials. The teacher guide explicitly gives which MP's are being used in each lesson.	
II: Additional Alignment Criteria and Indicators of Quality	5. Alignment Criteria for Standards for Mathematical Content	**No**	Although previous coursework is used to introduce grade level count, review material is not clearly	

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			identified to the teacher. There is review material throughout the classwork as well as the Review and Preview of each Chapter.	
	6. Alignment Criteria for Standards for Mathematical Practice	**Yes**	The Mathematical Practices are present and meaningful throughout the materials. They enhance the focus and coherence of the LSSM for Algebra I.	
	7. Indicators of Quality	**Yes**	Materials provide teachers with quality resources in order to aid in the delivery of the curriculum. There are places where technology should be used according to the standards but was only found in a minimal number of places where those standards are found.	
FINAL DECISION FOR THIS MATERIAL: **Tier II, Approaching quality**				

Appendix II.

Public Comments

There were no public comments submitted.