

## Review Team Appraisal of Title

(9-12 Mathematics)

This appraisal form is provided for use by educators responsible for the selection of instructional materials for implementation with districts and charter schools across New Mexico to meet the needs of their student populations.

This appraisal form should be used in conjunction with the publisher provided Form D: Research Based Effectiveness Determination that supports this reviewed material which can be found on the Instructional Material Bureau website.

<https://webnew.ped.state.nm.us/bureaus/instructional-materials/the-adoption-cycle/>

Text Title	High School Math Solution Integrated Math I	Publisher	Carnegie Learning
SE ISBN	9781934239858	TE ISBN	9781934239872
SW ISBN	9780000078588 (ISBN 9781609728588)	Grade Level/Content	Grade 9-10

**Core Material Designation** *(Core Material is - the comprehensive print or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.)*

Recommended \_\_\_\_\_ Recommended with Reservations   X   Not Recommended \_\_\_\_\_

**Total Score**

Reviewer #58 ____84%____	Reviewer #59 ____83%____	Reviewer #60 ____81%____	
Reviewer #56 ____87%____	Reviewer #57 ____86%____	Reviewer #61 ____87%____	Average Score ____85%____

**Standards Review** - *Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards.*

Reviewer #58 ____94%____	Reviewer #59 ____80%____	Reviewer #60 ____88%____	Average Score ____87%____
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Materials align with grade level standards.

*Integrated Math 1* constantly and consistently encourages the modeling of linear and exponential functions, focusing on the parameters (like y-intercept, slope, common ratio) in reference to real-life scenarios. Standards that involve the creation of linear equations, linear inequalities, linear functions, and exponential functions are well-addressed in the textbook. Another highlight is its frequent use of multiple representations of functions (graphs, tabular, function notation), especially when comparing key features of those functions. Furthermore, linear functions are clearly associated with arithmetic sequences and exponential functions with geometric sequences. In reference to its exploration of the structure of expressions, the materials develop the conceptual understanding with clarity, but do not provide students with the opportunity to develop procedural fluency. The standards associated with statistics are also well-developed and appropriate for this introductory high school course, particularly in reference to

IM= Instructional Material SE= Student Edition TE= Teacher Edition SW= Student Workbook

comparisons of measures of center and spread. Regarding the standards associated with quantities, the materials excel in having students choose appropriate scales for number lines and axes in the coordinate plane. However, it stumbles in its treatment of the level of accuracy for reporting answers. Unfortunately, the curriculum falters in its treatment of the geometry standards at this grade level. While the constructions are handled well, the concept of congruent figures is not. Transformations of geometric figures are not considered on the coordinate plane, congruent triangles are only given cursory attention, and the geometric properties proven with coordinate algebra are simplistic.

Materials align to standards for mathematical practice.

*Integrated Math 1* makes an obvious effort to address the standards for mathematical practice. Particularly noteworthy is their emphasis on Mathematical Practice 4, “Model with mathematics,” even devoting a lesson to its examination and then continuing to encourage modeling throughout the text. Lessons are often introduced with the inductive reasoning concepts behind Mathematical Practices 7, “Look for and make use of structure” and Mathematical Practices 8, “Look for and express regularity in repeated reasoning.” If there is a weakness regarding the Mathematical Practices, it is with Mathematical Practice 3, “Construct viable arguments and critique the reasoning of others.” While students are frequently encouraged to justify and explain their reasoning in the Student Edition, there is not one reference to them sharing their reasoning with another student or critiquing the statements made by one of their peers. Although this collaboration makes its suggestion in the Teacher’s Edition’s “Facilitation Notes,” the students do not receive this direction from Carnegie itself.

Materials show aspects of rigor.

*Integrated Math 1* focuses a great deal of attention on application problems, sometimes to the exclusion of procedural skills. There is an imbalance in rigor, with a blatant emphasis on conceptual understanding and application, rather than on procedural skills. At times, the application aspect of rigor felt almost ‘forced’, especially in instances when procedural skills received only cursory attention. That having been said, in standards dealing with geometry, there was a noticeable lack of application problems. Conceptual understanding was certainly highlighted throughout the entire text.

**Math Content Review** - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the specific reviewed content area.

Reviewer #58  
 \_\_\_75%\_\_\_

Reviewer #59  
 \_\_\_100%\_\_\_

Reviewer #60  
 \_\_\_64%\_\_\_

Reviewer #56  
 \_\_\_93%\_\_\_

Reviewer #57  
 \_\_\_93%\_\_\_

Reviewer #61  
 \_\_\_86%\_\_\_

Average Score  
 \_\_\_85%\_\_\_

Materials are consistent with grade level content, supporting the intent of the delivery and understanding of mathematics.

*Integrated Math 1* paid careful attention to the Common Core Standards for a first-year course of high school integrated mathematics. There is very little extraneous material in the materials, with the lessons being extremely focused only on the skills associated with our state’s adopted standards for mathematics. In standards that would be addressed over multiple high school mathematics courses, only those concepts that relate to linear functions and exponential functions are considered. The book is arranged into five modules that highlight the grade level content in an organized way that promotes the delivery in an appropriately sequential way. With its emphasis on rigor associated with conceptual

understanding, the standards aligned to this course (perhaps with the exception of the geometry standards) are probed in depth in *Integrated Math 1*. However, the textbook lacks opportunity for students to develop procedural fluency with the standards.

Materials support student learning of mathematics.

*Integrated Math 1*'s entire layout heralds the concept of student learning. From the large amount of space given to students for working problems to the minimalistic presentation that dissuades student distraction, the company's intent seems to lie with student learning. The materials include an online program called *MATHia*, which offers student support in a digital format and can be used to differentiate instruction for individual student needs. Although the materials are predominantly designed to encourage student learning, they seem to lack practice problems at times. Every concept seems to be centered around big activities, which promotes the conceptual aspect of learning. However, there may be only one activity that addresses a particular standard, and one problem in the midst of a complicated scenario. Students may not receive the repeated practice they need to master a procedural skill.

**All Content Review** - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the material regarding the progression of the standards, lesson structure, pacing, assessment, individual learners and cultural relevance.

Reviewer #58  
\_\_\_62%\_\_\_

Reviewer #59  
\_\_\_87%\_\_\_

Reviewer #60  
\_\_\_68%\_\_\_

Reviewer #56  
\_\_\_86%\_\_\_

Reviewer #57  
\_\_\_83%\_\_\_

Reviewer #61  
\_\_\_85%\_\_\_

Average Score  
\_\_\_79%\_\_\_

Materials are coherent and consistent with the high school standards which all students should study in order to be college and career ready.

*Integrated Math 1* focuses primarily on the numerous standards associated with the modeling of linear and exponential functions along with the standards associated with statistics and geometry, which is appropriate for this course. While most of the standards associated with this course are met, they are at the level pertinent to a first-year high school student. Given this, the materials are presumably designed for students as the first step toward college-readiness. Although the materials are coherent and consistent with the college-aligned Common Core Standards, there are no specific references in the book to how the skills are used at the college-level or in real-life employment.

Materials are well designed and take into account effective lesson structure and pacing.

*Integrated Math 1* is composed of five modules of unequal size. The first two modules are significantly longer than the other three. Despite this, the book seems very well-organized. The individual topics within each module present a logical progression of mathematical concepts. The lessons themselves seem to be of roughly equal length. The structure of lessons centers around a number of multi-part activities designed to promote the conceptual understanding of a particular topic. While most of these activities involve application problems, there are very few actual practice problems in each lesson. Procedural skills are diminished in favor of long activities with numerous parts.

Materials support teacher planning, learning, and understanding of the standards.

While the Student Edition of *Integrated Math 1* is one large, three-inch thick paperback book, the Teacher's Edition consists of two volumes of roughly the same size. In addition to answer keys, the Teacher's Edition includes extensive "Facilitation Notes" with detailed notes for planning lessons for the

students. The publishers also promote an online community called Long Live Math with the promise that this community provides additional support for teachers. No evidence was found that the materials themselves provide additional teacher learning and understanding of the standards.

Materials offer teachers resources and tools to collect ongoing data about student progress on the standards.

Although *Integrated Math 1* is rife with formative assessment, there is no clear indication how formative assessment is translated into usable data that the teacher can use to mold his/her instruction. Furthermore, the assignments at the end of each lesson do not indicate standards. Therefore, even if the teacher collects these pages from the students, he/she does not have an efficient way to track student progress based on standards. Even though the textbook itself does not lend itself to the ongoing collection of data on student progress, the online supplement *MATHia* does appear to have this capability. Further review of the online materials may be needed to verify resources for data analysis.

Materials give all students extensive opportunities and support to explore key concepts.

Since the design of *Integrated Math 1* centers around only a couple of robust activities in each lesson, this textbook contains comparatively fewer problems than the typical student tome. The short assignments at the end of each lesson are much different than the problems found at the end of each lesson in a typical textbook. This feature could be interpreted in two ways. Some teachers may perceive the fewer problems as an opportunity for students to explore those problems more deeply, while other teachers may perceive fewer problems as limiting the opportunity for student practice. The book seems to depend on its online *MATHia* companion to give more student support than the textbook itself offers. Further review of the digital materials would be necessary to determine the depth of these additional opportunities, as well as how individualized the support provided.

Materials support effective use of technology to enhance student learning. Digital materials are accessible and available in multiple platforms.

Other than *MATHia*, the online complement to the consumable book, there are no other digital materials available. *MATHia* seems to be a robust online learning platform, which can support individualized learning. It is extremely interactive, not just a collection of tutorial videos. Students must actually do work in *MATHia* to progress through a lesson. The book occasionally references graphing technology and software that can calculate regression analysis. However, the company doesn't appear to offer the technology to do those things. This may exist in the digital materials, but those were not all accessible. Teachers could benefit from the digital materials more if the Teacher's Implementation Guide included more strategies for supporting student learning when engaged with *MATHia*. Often, students are left to their own when put on a device with math software.

Materials can be easily customized for individual learners.

*Integrated Math 1* is more a structured program of study than a textbook. As such, it is designed not as a reference book for teachers and students, but as a structured curriculum. Teachers (and their students) seem expected to work through the book page by page, in a prescribed plan and order. In that sense, it doesn't seem customizable for individual learning. However, the supplementary materials associated with the book provide for differentiation of learning, particularly *MATHia*, the online component. The sequencing and pacing of the materials do not lend themselves to a flexible implementation with personalized learning, despite the fact that the Teacher's Implementation Guide mentions that phrase several times.

Materials take into account cultural perspectives.

Perhaps the best word to describe *Integrated Math 1* is "generic" when it comes to the content of its application problems. There is absolutely no evidence that this book was designed with the state of New Mexico in mind. Because it is so "vanilla-flavored", there is little chance of it *offending* anyone from

another culture, but there is also little chance of it *engaging* anyone from another culture. There is absolutely no reference to the vibrant variety of peoples, languages, and cultures present not only in this state, but in the country.

**Reviewer Professional Summation** - *These materials are reviewed by Level II and Level III educators from across New Mexico. The reviewers have brought their knowledge, experience and expertise into the review of these materials. They offer here their individual summary of the material as a whole.*

Reviewer #58 background and experience: 13+ years of secondary mathematics teaching in two states, from 6th grade through community college. A Level III license. A Master's degree in Public Health. A Bachelor's degree in Mathematics. Currently the Mathematics Coordinator for their district. Participated in instructional material reviews in the past. Wrote their own curriculum for several years in the classroom, as well as K-12 curriculum maps for their district, all aligned to Common Core.

*Professional summary of material:*

Overall, the Carnegie Learning *Integrated Math I* offers a robust journey through the standards. There are some areas that could benefit from additional work, such as with the Geometry standards, and the approach is somewhat traditional. The 'intentional' structure of each lesson is teacher-centered with an Engage section, a Develop section, and a Practice section, as one would see in a traditional math classroom (I do, We do, You do). There should be more opportunity for students to present their strategies and reasoning behind solutions, defend their thinking, and critique the reasoning of their classmates. In making this more student-centered, the materials and suggested strategies also need to be culturally and linguistically responsive.

Reviewer #59 background and experience: Taught high school math for 23 years. Taught Pre-Algebra, Algebra 1, Algebra 2, Geometry, Algebra 2/Trigonometry, Pre-Calculus, Calculus, Integrated Math and other higher math subjects. A Level 3 educator. Awarded an Exemplary Teacher for SY 2017-2018. An assessment writer for a company that makes assessments for districts that use the Common Core Curriculum. Serves as a curriculum writer/assessment analyst for the reviewer's district. An Algebra 1 Instructional Coach before transferring to a college preparatory high school.

*Professional summary of material:*

The Carnegie Learning's *Integrated Math 1* materials are aligned with the Common Core Standards. The Student Edition requires the students to be actively engaged with their learning. Integrated Math 1 provides hard copies of the textbook and introduces software where students can experiment and visualize the mathematical figures. The teachers are provided with a Teacher Implementation Guide that's easy to follow and the right support to hone their teaching practice.

There are a few things for the publisher to consider. Some concepts lack procedural skills for better understanding. Teachers and students will be able to master the Common Core Standards *if* they're written in the Teacher's Guide, Student Edition, and the Skills Practice books. The goal of the materials is to be able to connect to and master the standards without searching and matching them with the topics.

Reviewer #60 background and experience: A high school math teacher in public schools for 18 years. A Level III educator with National Board Certification. Served as the head of the mathematics department for 15 years. Works in the private sector unpacking Common Core Curriculum for school districts across the country.

The materials are laser-focused on the Common Core Standards for the course. Unlike other textbooks, which spend the first three chapters rehashing the standards from previous math courses, *Integrated Math 1* dives right into the standards for the course and doesn't include tangential material. It does not

include sections and chapters with concepts that are not from standards for this course. This textbook seems to be designed around the spirit of the Common Core Standards as evidenced by its clear focus on the Standards for Mathematical Practice. Also noteworthy is the style of the book, a large consumable book designed for actual student interaction with space and wide margins for student notes and work.

Included in the criticism of the book is its weak module on Geometry. While the rest of the book seems well-organized and logically progressive, the geometry seems to be presented randomly with no thought to the progression of learning. The geometry problems do not seem indicative of the kinds of problems students would see on standardized tests associated with the course. Another criticism is the sometimes shocking lack of emphasis on procedural skills. Although it is admirable that this book corrects the deficiencies of some other publishers by including the rigor of conceptual understanding and application problems, it seems to do so at the expense of procedural skills.

Reviewer #56 background and experience: Level 2 teacher that has taught for 4 years. A Bachelors in Secondary Education, emphasis in Mathematics. Currently pursuing a Master's Degree in Curriculum and Instruction, emphasis in Education Technology. Taught Algebras 1 and 2, Geometry, and MATH 180 programs. A part of my district's efforts to create better vertical alignment for mathematics courses. Participated in several Professional Developments to receive training on the PLC process and how to better align good teaching practices to the classroom.

*Professional summary of material:*

Since I was given the task of partially reviewing these materials, this summary will only reflect those parts. The presentation of the materials was great. The aesthetics of the materials could be better, but it was not a distraction. The materials could improve in its cultural aspects. These materials did not give many examples of cultural experiences or aspects for New Mexico. It seemed designed for a nationwide audience, and not tailored to fit any culture within a particular state. There are no cultures beyond the United States represented within the materials. There does not need to be a lot, but these materials met almost none of those types of criteria. Although limited in what it showed, the online portions gave a positive impression, and along with the physical materials, is a great additional resource. It was the right amount of research, content delivery, and structure needed for this course.

Reviewer #57 background and experience: Highly qualified, level three teacher in the state of New Mexico with 15 years of experience teaching Algebra 1 through Pre-Calculus. I hold a bachelor's degree in science with an emphasis in mathematics. I hold a master's degree in educational administration. I have been the math department head at my school for the last seven years.

*Professional summary of material:*

The publisher did a solid job with the materials they presented to the state of New Mexico for teachers to use in their classrooms. The curriculum has a different feel to it in comparison to a "typical" mathematics text book. The format and wealth of support and extra information provided is a nice addition. The content within the text not only provides multiple opportunities for the teacher to differentiate instruction to their students but it also provides the students with a variety of ways to show what they know and prove that they have mastered the content being presented. The curriculum at first appears to be very wordy and dry but the content is rich. The online component is also a nice addition to the curriculum and provides a lot of extra support both teachers and students need to be successful in a math classroom. While the material has a few drawbacks, I would recommend it be adopted by the mathematics teachers of New Mexico.

Reviewer #61 background and experience: 10 years of experience in education in New Mexico. Current content specialist for high school mathematics. Previously taught high school mathematics and supported middle school mathematics teachers. Taught students of all levels from Algebra 1 Intervention to AP

Calculus. Level 3 teacher with a Masters degree. Worked with the NMPED in using the Making Sense of Student Work Protocol and revising the NM End of Course exams for mathematics.

*Professional summary of material:*

This material is an engaging and thorough resource for students. I could envision using this with my students and seeing profound success as they make connections across mathematical topics. The consistency with the routines and structures of the material may seem tedious or boring, but is so valuable for students and only contributes to their success. A potential snag is that the curriculum assumes that students have the prerequisite knowledge to be successful. Provided that teachers can identify and adequately address those gaps, the material has strong potential. At the same time, the curriculum does a good job of providing tasks with multiple entry points, so perhaps those prerequisite skills are not as important as traditionally perceived. The online companion is a great resource for students to practice procedural skills to build off of the conceptual understanding they develop in the classroom setting. I would recommend this material with very limited reservations.

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(9-12 Mathematics)

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Text Title	High School Math Solution Integrated Math II	Publisher	Carnegie Learning
SE ISBN	9781934239957	TE ISBN	9781934239971
SW ISBN	9780000088588 (ISBN 9781609728588)	Grade Level/Content	Grade 9-11

**Core Material Designation** *(Core Material is - the comprehensive print or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.)*

Recommended \_\_\_\_\_ Recommended with Reservations   X   Not Recommended \_\_\_\_\_

**Total Score**

Reviewer #58 __84%__	Reviewer #59 __83%__	Reviewer #60 __77%__	
Reviewer #56 __85%__	Reviewer #57 __85%__	Reviewer #61 __84%__	Average Score __83%__

**Standards Review** - *Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards.*

Reviewer #58 __93%__	Reviewer #59 __79%__	Reviewer #60 __80%__	Average Score __84%__
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Materials align with grade level standards.  
*Integrated Math II* focuses only on the standards of this grade level without repeating and reviewing the standards of *Integrated Math I*. In the course, several topics are introduced to students which can be revelatory: the fact that roots and fractional exponents are the same, the expansion of the number system to include imaginary numbers, the idea of counting with permutations and combinations, the concept of trigonometry, and strategies for solving quadratic equations. Unfortunately, although the textbook certainly covers these profound mathematical truths, it does so without the exuberance inherent to their discovery. Teachers may need to supplement lessons with their own engaging discovery

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activity before starting a Carnegie lesson. And even more troubling, the book suffers from a dearth of opportunity for students to develop procedural fluency with these new skills.

*Integrated Math II* begins with two geometry modules that are an adequate expansion of the geometry standards addressed in the first course. While most standards receive their due, the lesson devoted to HS.GGPE.B.6 is not inclusive of points on a number line or of more complicated ratios. Furthermore, the concept of trigonometric similarity found in HS.GRST.C.6 is not given the attention it deserves. The third and fourth modules explore functions, especially quadratic functions. Although an effort was obviously made to address all of the standards, sometimes they are not at the level indicative of the standard (ie. HS.ASSE.A.2, factoring skills).

#### Materials align to standards for mathematical practice.

By including many multi-part word problems in its activities, *Integrated Math II* excels in promoting the mathematical practices associated with solving application problems. Regarding Mathematical Practice 1, students must look for entry points into the scenario problems found throughout the textbook and then create a plan to solve those problems. Related to this are Mathematical Practices 2 and 4, which involve decontextualizing and modeling the word problems. While the two geometry modules do not include as many application problems, Mathematical Practice 5 is well-developed as students use tools like patty paper, compass, and a straightedge to examine geometric properties. In addition, students must apply Mathematical Practice 6 as they provide exact answers in their geometric work or round their answers to appropriate decimal places when using trigonometry. With the introduction of quadratic functions, there is considerable attention given to the different forms it can take (standard form, vertex form, factored form). As such, Mathematical Practices 7 and 8 are encouraged as students look for patterns in the structures and develop methods for using the different forms.

A conspicuous deficiency of *Integrated Math II* is its treatment of Mathematical Practice 3. It appears the word “explain” is all that is needed to meet the requirements of this standard. Within the student textbook, students are never encouraged to share their ideas with their peers nor are they asked to review the statements made by their peers.

#### Materials show aspects of rigor.

In *Integrated Math II*, the startling scarcity of opportunity for students to develop procedural fluency is by far its greatest shortcoming. In such a voluminous book, the fact that students are given only a smattering of problems to practice their skills is unforgivable. Perhaps the most shocking example is the factoring standards of HS.ASSE.A.2 and HS.ASSE.B.3a. Teachers using this textbook would have to supplement the factoring section to include repeated student practice of factoring strategies at the level necessary for a high school student to cultivate fluency. However, the publisher’s lack of procedural proficiency is not limited to factoring. With complex numbers, with rational exponents, with trigonometry, with completing the square -- rigor demands practice. *Integrated Math II* overtly focuses on the conceptual facet of rigor.

Regarding attention to applications, the book includes this aspect of rigor, especially with functions and probability, although infrequently in the geometry modules. Even though the book accentuates conceptual understanding and includes application problems, its muting of procedural fluency precludes a balance in rigor. Teachers may need to supplement lessons with the Skills Practice book in order to achieve desired procedural fluency.

**Math Content Review** - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the specific reviewed content area.

Reviewer #58  
\_\_\_75%\_\_

Reviewer #59  
\_\_\_89%\_\_

Reviewer #60  
\_\_\_75%\_\_

Average Score  
\_\_\_79%\_\_

Materials are consistent with grade level content, supporting the intent of the delivery and understanding of mathematics.

*Integrated Math II* focuses only on the standards associated with the course, with very few deviations into topics not distinctly included in the standards (ie. Triangle Angle Bisector Theorem). For the most part, the book is consistent with grade level content. However, there are a couple of instances when the book seems “easier” than is appropriate for the level correlating to the standards. Most notably among these instances are problems associated with ratio on a directed line segment and problems associated with factoring.

The book is arranged into five modules -- two with geometry, two with functions, and one with probability. In all cases, the topics represent a logical progression from the ones found in *Integrated Math I*. Within each module, there are some instances where the order doesn’t flow naturally. For example, in a module about quadratic functions, the topic of circles, including trigonometry associated with the unit circle, makes a surprising appearance in juxtaposition to the other topics in the module.

Throughout the textbook, the publisher promotes conceptual understanding of the standards appropriate to the grade level. Nevertheless, the intent of the delivery suffers from a glaring omission of opportunity for students to develop procedural fluency.

Materials support student learning of mathematics.

*Integrated Math II* is designed with student learning in mind, albeit from an exclusively conceptual standpoint. The book is enormous, specifically designed to allow students space to take notes and write explanations within the consumable book itself. Each page of the book has a sparse layout, intentionally designed without the pictures, blurbs, and distractors typically found in modern textbooks. Included among the materials is an online program called *MATHia*, which offers student support in a digital format and can be used to differentiate instruction for individual student needs.

While there are clearly deliberate choices in promoting student learning, the choice to leave out problems for developing procedural skills is unmistakably discernable. Within a lesson, a concept is developed from a big activity that establishes the conceptual aspect of learning a standard. However, students are not given the repeated practice they need to master a procedural skill. And with some standards, there may be only one activity or one part of one activity that addresses that particular standard, begging the question of whether the brief exposure is enough for student mastery.

**All Content Review** - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the material regarding the progression of the standards, lesson structure, pacing, assessment, individual learners and cultural relevance.

Reviewer #58  
\_\_62%\_\_

Reviewer #59  
\_\_92%\_\_

Reviewer #60  
\_\_67%\_\_

Reviewer #56  
\_\_88%\_\_

Reviewer #57  
\_\_84%\_\_

Reviewer #61  
\_\_85%\_\_

Average Score  
\_\_79%\_\_

Materials are coherent and consistent with the high school standards which all students should study in order to be college and career ready.

*Integrated Math II* materials consistently address the standards in an intentionally coherent sequence. The scope of the modules, topics, and lessons is in line with literature and research regarding expectations for high school students. Presumably, should the materials be used as intended, students could be prepared for college and career. This is despite the somewhat generic application problems that show little correlation to the work students will do after graduation.

Materials are well designed and take into account effective lesson structure and pacing.

*Integrated Math II* is divided into five modules, the first four consisting of three topics and the last module (probability) having two topics. Thought has been given to the arrangement of the topics and lessons within the book. For the most part, the individual topics within each module present a logical progression of mathematical concepts. However, in a module focusing on quadratic functions, there is the seemingly random inclusion of unit circle trigonometry.

Within each topic, there are a number of lessons, each one of which centers around multi-part activities. The activities stimulate conceptual understanding of the standard under consideration usually at the expense of procedural skills. Because the activities are long, with numerous parts, there are very few actual practice problems in each lesson.

Materials support teacher planning, learning, and understanding of the standards.

The Student Edition of *Integrated Math II* is two large paperback books, each roughly two inches thick. Similarly, the Teacher's Edition consists of two volumes approximately three-inches thick. In addition to answer keys, the Teacher's Edition includes extensive "Facilitation Notes" with detailed notes for planning lessons for the students. These "Facilitation Notes" are a highlight of the textbook, included detailed suggestions on how to teach the material, anticipate common misunderstandings, and differentiate for diverse learners. While Carnegie Learning advertises an online community called Long Live Math with the promise that this community provides additional support for teachers, there was no evidence that the materials themselves provide additional teacher learning and understanding of the standards.

Materials offer teachers resources and tools to collect ongoing data about student progress on the standards.

Because the Student Edition of *Integrated Math II* is designed for student work, it includes formative assessment, notably in the "Talk the Talk" sections. Nevertheless, there is no clear way for the teacher to easily collect data from this formative assessment and quickly adapt instruction accordingly. Furthermore, at the end of each lesson are "Assignments," which are the only sections of the book where students are not given ample space to work out problems. However, again, there is no clear convenient way for teachers to collect data from these assignments, especially since the targeted standards are not given in association with the problems.

Carnegie Learning has only provided one way for educators to collect ongoing data about student progress, which is through its online component *MATHia*. Unfortunately, we did not have full access to this online

program to fully understand how it can be used to differentiate instruction for students. The accessible parts of *MATHia* show a robust program with illustrations and activities to promote student learning. According to the overview pages of the Teacher Implementation Guide, there are reports that teachers can access within *MATHia* regarding student performance and progress aligned to the standards. However, this has not been fully reviewed, nor were the reviewers able to see *MATHia* from a teacher’s perspective.

**Materials give all students extensive opportunities and support to explore key concepts.**

Since the design of *Integrated Math II* centers around a smattering of multi-part activities in each lesson, this textbook contains significantly fewer problems for students to practice, removing the opportunity for students to develop procedural fluency. Student learning becomes fun for them when they are confident with what they do, which is the result of procedural fluency.

The short assignments at the end of each lesson are also much different than the problems found at the end of each lesson in a typical textbook. This feature could be interpreted in two ways. Some teachers may perceive fewer problems as an opportunity for students to explore those problems more deeply, while other teachers may perceive fewer problems as limiting the opportunity for student practice.

There could be further development of the connections between standards and college math courses, and connections between standards and careers or trade industries. In order for students to fully engage with concepts, there should be an opportunity for them to see where the skills they are developing are building on previous learning and how these skills can benefit them in the future.

The book seems to depend on its online *MATHia* companion to give more student support than the textbook itself offers. Further review of the digital materials would be necessary to determine the depth of these additional opportunities, as well as how individualized the support provided.

**Materials support effective use of technology to enhance student learning. Digital materials are accessible and available in multiple platforms.**

Other than *MATHia*, the online complement to the consumable book, there are no other digital materials available. *MATHia* seems to be a robust online learning platform, which can support individualized learning. It is extremely interactive, not just a collection of tutorial videos. Students must actually do work in *MATHia* to progress through a lesson. The book occasionally references graphing technology and software that can calculate regression analysis. However, the company doesn’t appear to offer the technology to do those things. This may exist in the digital materials, but those were not all accessible.

Teachers could benefit more from the digital materials, if the teacher’s guide included more strategies for supporting student learning when engaged with *MATHia*. Often, students are left on their own when put on a device with math software. The Student Edition would benefit from side notes suggesting when it would be beneficial for students to use *MATHia*, together with the consumable book.

**Materials can be easily customized for individual learners.**

In the *Integrated Math II* materials, lessons are designed to build off what students already know. Teachers are encouraged to build student confidence by giving them the support necessary to keep students on the right path. Within the student materials, there is space to write solutions and analysis. There are side notes to aid students in recalling past lessons and experiences. Activities are provided with “worked examples” that are correct and examples that use incorrect principles and properties. Each subtopic includes *Talk the Talk* and *Assignment* sections that require students to practice or enhance what they have learned. *MATHia* also provides students with opportunities to visualize and make concrete what they learn abstractly. Using *MATHia* may be the best way to personalize the materials for a more individualized learning experience. The materials are designed with a specific sequence in mind, and it seems that deviation may hinder the goal for

the learning experience. In order for teachers to help students become independent learners, the materials provide them with guides that include *Facilitation Notes*, *Differentiation Activities*, *As Students Work*, *Look For*, *Misconceptions and Questions to Ask*, which help students go beyond their learning and connect to previous and future topics. The Skills Practice book can also be utilized to customize learning for students, although this is not necessarily discussed at length within the lesson notes for teachers.

One of the goals of mathematics learning is to make students and educators familiar with the Common Core Standards. The standards are addressed at the introduction of the Teacher’s Guide, but never in the activities, lesson guides, or Student Edition. It would be beneficial if the Common Core Standards were listed in every activity of the Student Edition. Teachers and students would be able to connect the lessons to the appropriate standards without spending (or wasting) time in matching them.

**Materials take into account cultural perspectives.**

If the materials are used as intended, students can learn to reason mathematically in a way that connects them to their surroundings and helps them make sense of the world around them. The scenarios in the lessons help students connect abstract concepts to real-world contexts, and the lessons are designed to connect students to experiences that are familiar to a teenager.

Unfortunately, in the *Integrated Math II* materials, the proofs are mostly discussed in abstract ways and not connected to how students approach their out-of-school issues and dealings.

*Integrated Mathematics II* is not a very culturally and linguistically responsive text. This requires a seasoned teacher to create and maintain the ideal learning environment for their students, without much guidance from the Teacher Implementation Guide. Names used in examples are “culturally-sounding”, but the activities have no connections with what students do daily. An example is the discussion on quadratic equations and functions. This involves “vanilla” perspectives and describe situations to which many students in New Mexico would not relate. This would have been an excellent topic to apply concepts in local scenarios for students to engage in problem solving. In addition, connection to college and career would be another easy way to be more culturally responsive, and these connections are not apparent. This is a major area that needs improvement in Carnegie Learning.

**Reviewer Professional Summation** - *These materials are reviewed by Level II and Level III educators from across New Mexico. The reviewers have brought their knowledge, experience and expertise into the review of these materials. They offer here their individual summary of the material as a whole.*

Reviewer #58 background and experience: 13+ years of secondary mathematics teaching in two states, from 6th grade through community college. A Level III license. A Master’s degree in Public Health. A Bachelor’s degree in Mathematics. Currently the Mathematics Coordinator for their district. Participated in instructional material reviews in the past. Wrote their own curriculum for several years in the classroom, as well as K-12 curriculum maps for their district, all aligned to Common Core.

**Professional summary of material:**

Overall, the structure of *Integrated Math II* does not differ much from *Integrated Math I*. The same design is present throughout, following their instructional approach - the Carnegie Learning Way. This presents some concern about the flexibility of the materials to suit the needs of students across New Mexico, as we have a very wide variety of levels of learning and styles of learning within each classroom within every school in the state. The publishers left a great deal of room for improvement in terms of making this personalized learning, and showed a poor effort to be culturally and linguistically responsive

to the diverse student population of New Mexico. Ultimately, these would be decent materials for a relatively seasoned teacher who can supplement with their own passion for mathematics and their own methods and strategies for supporting their students. In the hands of a relatively new teacher, especially in New Mexico, this course could be very dry, very “vanilla”, and a long way from making math engaging and relevant for the students in this state. There are many areas in which these materials could be the standard, such as in developing skills with quadratic functions and their potential applications to real-world scenarios, but there are other areas in which these materials leave some to be desired, such as in engaging the Standard for Mathematical Practice #3.

Reviewer #59 background and experience: Taught high school math for 23 years. Taught Pre-Algebra, Algebra 1, Algebra 2, Geometry, Algebra 2/Trigonometry, Pre-Calculus, Calculus, Integrated Math and other higher math subjects. A Level 3 educator. Awarded an Exemplary Teacher for SY 2017-2018. An assessment writer for a company that makes assessments for districts that use the Common Core Curriculum. Serves as a curriculum writer/assessment analyst for the reviewer’s district. An Algebra 1 Instructional Coach before transferring to a college preparatory high school.

*Professional summary of material:*

The materials are aligned with the Common Core Standards. The Student Edition requires the students to be actively engaged with their learning. *Integrated Math II* provides hard copies of the textbook and introduces software where students can experiment and visualize the mathematical figures. The teachers are provided with a Teacher Implementation Guide that’s easy to follow and the right support to hone their teaching practice.

There are a few things for the publisher to consider. Some concepts lack procedural skills for better understanding. Teachers and students will be able to master the Common Core Standards *if* they’re written in the Teacher’s Guide, Student Edition, and the Skills Practice books. The goal of the materials is to be able to connect to and master the standards without searching and matching them with the topics. The lessons on proving theorems pertaining to Geometry have fewer applications that help students connect their learning to the real-world. The Common Core Standards must also be listed in every activity of the student edition for easy mastery.

Reviewer #60 background and experience: A high school math teacher in public schools for 18 years. A Level III educator with National Board Certification. Served as the head of the mathematics department for 15 years. Works in the private sector unpacking Common Core Curriculum for school districts across the country.

The utter disregard for procedural fluency found within the Student Edition of this textbook was startling. Topics like factoring require much repeated practice for students to master, yet this was completely lacking in *Integrated Math II*. While it is admirable that the textbook wants to correct the deficiency regarding conceptual understanding that has been prevalent in American education for decades, the overcompensation at the expense of skills practice is disconcerting. Although a *Skills Practice* supplementary book is included, its use is not encouraged in the Teacher Implementation Guide, nor is it apparent why it exists as a separate book.

Integrated Math 2 is an exciting time in the mathematical career of students as they are introduced to eye-opening concepts like imaginary numbers and trigonometry. Unfortunately, this book doesn’t seem to recognize how profound those topics can be for students. Those topics can be life-changing and lead to a career in mathematics. However, this book treats those topics as just another multi-part activity, which stifles their profundity.

Reviewer #56 background and experience: Level 2 teacher that has taught for 4 years. A Bachelor’s in Secondary Education, emphasis in Mathematics. Currently pursuing a Master’s Degree in Curriculum and

Instruction, emphasis in Education Technology. Taught Algebras 1 and 2, Geometry, and MATH 180 programs. A part of my district's efforts to create better vertical alignment for mathematics courses. Participated in several Professional Developments to receive training on the PLC process and how to better align good teaching practices to the classroom.

*Professional summary of material:*

Since I was given the task of partially reviewing these materials, this summary will only reflect those parts. The presentation of the materials was great. The aesthetics of the materials could be better, but it was not a distraction. The material could improve in its cultural aspects. These materials did not give many examples of cultural experiences or aspects for New Mexico. It seemed designed for a nationwide audience, and not tailored to fit any culture within a particular state. There are no cultures beyond the United States represented within the materials. There does not need to be a lot, but these materials met almost none of those types of criteria. Although limited in what it showed, the online portions gave a positive impression, and along with the physical materials, is a great additional resource. It was the right amount of research, content delivery, and structure needed for this course.

Reviewer #57 background and experience: Highly qualified, level three teacher in the state of New Mexico with 15 years of experience teaching Algebra 1 through Pre-Calculus. I hold a bachelor's degree in science with an emphasis in mathematics. I hold a master's degree in educational administration. I have been the math department at my school for the last seven years.

*Professional summary of material:*

The publisher did a solid job with the materials they presented to the state of New Mexico for teachers to use in their classrooms. The curriculum has a different feel to it in comparison to a "typical" mathematics textbook. The format and wealth of support and extra information provided is a nice addition. The content within the text not only provides multiple opportunities for the teacher to differentiate instruction to their students but it also provides the students with a variety of ways to show what they know and prove that they have mastered the content being presented. The curriculum at first appears to be very wordy and dry but the content is rich. The online component is also a nice addition to the curriculum and provides a lot of extra support both teachers and students need to be successful in a math classroom. While the material has a few drawbacks, I would recommend it be adopted by the mathematics teachers of New Mexico.

Reviewer #61 background and experience: 10 years of experience in education in New Mexico. Current content specialist for high school mathematics. Previously taught high school mathematics and supported middle school mathematics teachers. Taught students of all levels from Algebra 1 Intervention to AP Calculus. Level 3 teacher with a Masters degree. Worked with the NMPED in using the Making Sense of Student Work Protocol and revising the NM End of Course exams for mathematics.

*Professional summary of material:*

This material is an engaging and thorough resource for students. I could envision using this with my students and seeing profound success as they make connections across mathematical topics. The consistency with the routines and structures of the material may seem tedious or boring, but is so valuable for students and only contributes to their success. A potential snag is that the curriculum assumes that students have the prerequisite knowledge to be successful. Provided that teachers can identify and adequately address those gaps, the material has strong potential. At the same time, the curriculum does a good job of providing tasks with multiple entry points, so perhaps those prerequisite skills are not as important as traditionally perceived. The online companion is a great resource for students to practice procedural skills to build off of the conceptual understanding they develop in the classroom setting. I would recommend this material with very limited reservations.



## Review Team Appraisal of Title

(9-12 Mathematics)

This appraisal form is provided for use by educators responsible for the selection of instructional materials for implementation with districts and charter schools across New Mexico to meet the needs of their student populations.

This appraisal form should be used in conjunction with the publisher provided Form D: Research Based Effectiveness Determination that supports this reviewed material which can be found on the Instructional Material Bureau website.

<https://webnew.ped.state.nm.us/bureaus/instructional-materials/the-adoption-cycle/>

Text Title	High School Math Solution Integrated Math III	Publisher	Carnegie Learning
SE ISBN	9781609725716	TE ISBN	9781609725730
SW ISBN	9780000098588 (ISBN 9781609728588)	Grade Level/Content	Grade 11-12

**Core Material Designation** *(Core Material is - the comprehensive print or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.)*

Recommended \_\_\_\_\_ Recommended with Reservations   X   Not Recommended \_\_\_\_\_

**Total Score**

Reviewer #58 __81%__	Reviewer #59 __80%__	Reviewer #60 __80%__	
Reviewer #56 __84%__	Reviewer #57 __82%__	Reviewer #61 __83%__	Average Score __82%__

**Standards Review** - *Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards.*

Reviewer #58 __88%__	Reviewer #59 __77%__	Reviewer #60 __84%__	Average Score __83%__
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Materials align with grade level standards.

*Integrated Math III* is noteworthy in its emphasis on analyzing functions appropriate for the course. The book extends the standards from previous courses (which focused primarily on linear, quadratic, and exponential functions) to include polynomial functions, radical functions, rational functions, and logarithmic functions. In considering these advanced functions, particular priority is given to their key features including roots, intervals increasing/decreasing, maximums/minimums, and end behavior as well as comparing them when they are represented in different forms (algebraically, graphically, verbally, and tabularly). The structure of these functions is treated, and rational expressions receive singular

IM= Instructional Material SE= Student Edition TE= Teacher Edition SW= Student Workbook

consideration as arithmetic operations are performed on them, including division and a consideration of the Remainder Theorem. Inverse functions are analyzed in more detail, with the obvious goal of applying them to logarithmic functions. Further extensions from previous courses include the application of complex numbers to analyzing functions with the Fundamental Theorem of Algebra, developing a formula for the sum of a finite geometric series, exploring the normal distribution in statistics to make decisions, and using the unit circle to graph trigonometric functions. Geometric standards are also extended to include an exploration of cross-sections and solids of revolution. However, the topic of density (HS.GMG.A.2) is not established in this textbook.

As with the other books in this series, the standards are actualized through conceptual activities and application problems, sometimes at the expense of procedural fluency. As such, some of the standards that promote procedural skills (ie. HS.ASE.A.1 and HS.ASE.A.2) are not as well-developed. Fluency could be supported with the *Skills Practice* book, but there was not much guidance on using this book in the Teacher Implementation Guide. It would be up to the teacher to determine the best resources to support student learning. Also, while the standards are included at the beginning of the topics in the Teacher Edition, there is absolutely no reference to them in the lessons in the Student Edition.

#### Materials align to standards for mathematical practice.

With its incorporation of multi-part word problems in its activities, *Integrated Math III* typifies the mathematical practices associated with modeling and application. As such, the book encourages Mathematical Practice 1 (persevering in solving problems), Mathematical Practice 2 (decontextualizing word problems), and Mathematical Practice 4 (modeling) especially regarding the statistics standards. Although application problems tend to be a hallmark of the series, they aren't as frequently represented in the sections of the book with standards about the structure of expressions, such as operations on polynomials and rational expressions. Mathematical Practice 5 is well-developed as students are encouraged to use graphing calculators to find the intersection of functions as their solutions and to create mathematical regressions on data, as well as analyze binomial distributions in statistics. Furthermore, students must apply Mathematical Practice 6 as they provide exact answers in their geometric work or round their answers to appropriate decimal places when using trigonometry. Especially with rational expressions, Mathematical Practices 7 and 8 are encouraged as students look for patterns in the structures and develop methods for performing arithmetic on them.

A conspicuous deficiency of *Integrated Math III* is its treatment of Mathematical Practice 3. It appears the word "explain" is all that is needed to meet the requirements of this standard. Within the Student Edition, students are never encouraged to share their ideas with their peers nor are they asked to review the statements made by their peers (although this suggestion appeared in the teacher edition, only at the discretion of the instructor).

#### Materials show aspects of rigor.

*Integrated Math III* accentuates conceptual understanding -- with every topic, every lesson, and every module introduced conceptually. Often, this occurs in conjunction with application problems. Unfortunately, given all of the attention to concepts, procedural skills are sometimes neglected. Therefore, there is an imbalance in rigor with an overt emphasis on conceptual understanding and application over procedural fluency.

Although there is a supplementary *Skills Practice* book provided, there is no encouragement in the Teacher Edition or the Student Edition to use it. With two voluminous books, it's not clear why skills development was not included with the Student Edition, but instead given as an additional book, almost as an afterthought. Like the other books in the series, this one displays a clear tendency to favor

conceptual understanding. However, unlike the other books in the series, there appear to be fewer application problems. For conceptual understanding and procedural skills to be fully developed, more activities are needed.

**Math Content Review** - *Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the specific reviewed content area.*

Reviewer #58  
\_\_75%\_\_

Reviewer #59  
\_\_79%\_\_

Reviewer #60  
\_\_86%\_\_

Average Score  
\_\_80%\_\_

Materials are consistent with grade level content, supporting the intent of the delivery and understanding of mathematics.

One positive feature of *Integrated Math III* (and the whole series) is the way it extends and expands upon previous standards without including endless review. Carnegie Learning stays completely devoted to grade level content. Instead of repeating content on linear, quadratic, and exponential functions, the authors quickly delve into the more advanced functions appropriate at this grade level, including polynomial, rational, logarithmic, and trigonometric functions. Also, the book is not endlessly filled with lessons and activities that are superfluous, which is helpful to teachers who want to stay focused on just the Common Core Standards. Having said that, this book does contain a few lessons that are unnecessary (e.g., art, fractals, and dampening), which is a variance of the style of the previous books in the series which included no “fluff” material.

The layout of the book consists of five modules that are mostly sequential in their presentation of the topics associated with the standards. Within the modules, topics are arranged into lessons with a logical development of the content which would support the intended delivery for conceptual understanding. Unfortunately, as with the previous books in the series, there is often a lack of problems designed to strengthen procedural fluency. For complete mastery of the standards, teachers may need to supplement this book with the *Skills Practice* addendum or other materials.

Materials support student learning of mathematics.

*Integrated Math III* marks a significant departure from textbooks typically associated with American education, with obvious thought into making a book that supports student learning. This book (two two-inch volumes) is a consumable, intended for the students to write in. The pages are designed with ample room for students to take notes and work problems. Instead of being merely a reference work for students, *Integrated Math III* is a program of study. It is intended for teachers and their students to work through page by page. While it supports student learning if it is followed as prescribed, it would not be appropriate for teachers who prefer to develop their own engaging lessons. It would also be difficult to use in districts with their own curriculum pacing guide, since *Integrated Math III* has its own concrete structure, not easily customizable. Districts would need to adapt their curriculum maps to fit the materials, rather than vice versa. Nevertheless, the books are obviously designed with student learning in mind, particularly in supporting conceptual understanding. Teachers would need to be aware they may have to provide supplemental problems for students to practice repetition to develop procedural fluency with some of the standards.

**All Content Review** - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the material regarding the progression of the standards, lesson structure, pacing, assessment, individual learners and cultural relevance.

Reviewer #58  
\_\_63%\_\_

Reviewer #59  
\_\_88%\_\_

Reviewer #60  
\_\_69%\_\_

Reviewer #56  
\_\_87%\_\_

Reviewer #57  
\_\_81%\_\_

Reviewer #61  
\_\_85%\_\_

Average Score  
\_\_79%\_\_

Materials are coherent and consistent with the high school standards which all students should study in order to be college and career ready.

*Integrated Math III* is very readable with a coherent and logical design that facilitates learning. Because the authors are so laser-focused on the standards, there are no distracting features that detract from that coherence. Since *Integrated Math III* cultivates the Common Core standards with a consistency appropriate for this grade level, the textbook bolsters college- and career-readiness. The Common Core Standards, by their very design, are intended to prepare students for college and/or the workforce after graduation. Nevertheless, there are no specific instances where the publishers relate the mathematical topics of the course to specific university majors or to specific real-world employment.

Materials are well designed and take into account effective lesson structure and pacing.

*Integrated Math III* is divided into five modules of unequal size: one module contains four topics, two contain three, and two contain two. Because of this, particular units feel much longer than others. Within each topic, there are generally four or five lessons. Within each lesson, there are generally three activities. Unlike with the previous books in this series, there seems to be a few lessons that are shorter, lacking the variety of activities that are typical in most of the lessons. While overall the book is well-designed and features a logical progression, a handful of lessons seem misplaced. For example, a lesson in geometry about finding the cross-sections of three-dimensional solids is placed in the same topic as cubic functions.

Materials support teacher planning, learning, and understanding of the standards.

Although teachers must commit to the dictated Carnegie Learning program in its order and approach, teachers are given clear and helpful directions on how to use the program. The “Facilitation Notes”, which appear in the Teacher Edition, are impressive. Teachers are furnished a series of questions to ask students, along with suggestions about the pacing of the lesson. Of particular note were the “Misconceptions” and “Differentiation Strategies”, which offered tremendous insight into student learning and would presumably prove invaluable for educators. The “As Students Work, Look For” sections also offer teachers insights into how individual students think and respond to questions.

Materials offer teachers resources and tools to collect ongoing data about student progress on the standards.

Using the Carnegie Learning program, students are writing -- writing the work to math problems, writing explanations and justifications of their work, writing about their thinking process as they do the work. However, since all of this writing is done in their capacious consumable Student Editions, it is uncertain how teachers will be monitoring student progress. If teachers are to collect data from formative assessment to adapt their classroom instruction accordingly, it is uncertain how teachers are to take all of this writing (from perhaps a classroom of 30+ students) and make quick, informed decisions to mold the teaching of the daily lesson.

Furthermore, these materials require some cross-referencing to match standards to lessons and activities, because the standards are nowhere to be found in the Student Edition and only appear at the beginning of each unit in the Teacher Edition. The standards for each activity should be placed in both the Teacher Edition and Student Edition.

Carnegie Learning publicizes an online companion called *MATHia*. The table of contents of *Integrated Math III* includes a description on what activities *MATHia* can offer for each topic. In the select activities to which the reviewers had access, there was no indication that the students had knowledge of the standard upon which the online activity covered. However, in the introduction to the Teacher Edition, we are told reports can be generated by standard to progress student learning. Again, without access to a progress report or item analysis, we could not confirm the quality of the progress monitoring associated with *MATHia*.

Materials give all students extensive opportunities and support to explore key concepts.

For a new teacher following the structure of the materials and using them as intended, there would be some opportunities to explore key concepts, but the textbook often lacks actual student discovery of concepts. The “Facilitation Notes” contain some differentiation strategies to extend concepts and activities for advanced or gifted students, but this is not included in every activity or lesson. The materials do a much better job of including differentiation strategies to support the general class and struggling students. Additionally, there is a *Skills Practice* book that could be used to supplement the practice in the main Student Edition. This supplementation would be up to the teacher to determine what is best for the student, as there are limited guiding notes or tips on how to use the *Skills Practice*. This additional book is mentioned only briefly in module and topic overviews, and only in terms of the topics that connect to the module or topic. There are no standards listed in the Student Edition and the *Skills Practice* tables.

The digital material, *MATHia*, is purportedly designed to provide extended opportunities to explore concepts. The small amount of digital materials accessible provided little insight into what the student experience could be. This interaction revealed the additional supports available in *MATHia*, such as the examination of a worked example, step-by-step with explanations and graphics, before students attempt a problem individually.

Materials support effective use of technology to enhance student learning. Digital materials are accessible and available in multiple platforms.

Because the functions explored in *Integrated Math III* are more advanced (polynomial, rational, radical, logarithmic, trigonometric), the textbook encourages the use of graphing technology in many instances. Furthermore, in performing regressions on data and analyzing binomial distributions, graphing calculators are advocated. This technology would have to be provided supplementally by the district, because it is not part of the textbook’s materials. The only technology that is provided by Carnegie Learning is *MATHia*, an interactive online platform that can be customized for students, available in both PC and Mac versions. However, unless schools have the hardware in place for students to have one-to-one access to computers, *MATHia* may not be practical. There are also PDF versions of both the Teacher Edition and Student Edition.

Materials can be easily customized for individual learners.

The latest research on math learning indicates that a personalized approach is the best way to engage all students at all levels of learning. Carnegie Learning claims to include this in their guiding principles, but the evidence does not support this claim. There is little evidence that the materials can be customized at all, much less for individual learners. The overall design and structure of the materials was fully

intentional, as indicated by the ‘Carnegie Learning Way’ described in detail by the publisher, including comments about the research they performed.

There may be resources to support personalized learning within the digital component of these materials, but the reviewers did not have access to a teacher’s account, only a view of the student experience. There was not much guidance in the print materials about how to best utilize *MATHia* to support various levels of learning and styles of learning.

**Materials take into account cultural perspectives.**

Since these are mathematics materials, there are limited obvious opportunities to incorporate deep cultural connections and to offer opportunities to advocate for the betterment of intercultural relations. Nevertheless, the efforts to include multicultural representation in *Integrated Math III* are superficial at best. Using a name like “Jermaine” hardly takes into account cultural perspectives. Furthermore, the scenarios represented are not indicative of the situations for which the students of New Mexico would find relatable (e.g. “Angela rode the Ferris wheel at Navy Pier in Chicago”. How many of our students have been to Chicago, much less know what Navy Pier is?).

This is not a series which encompasses the rich variety of people and experiences found in our state. While there is nothing insensitive toward any particular ethnic group, the overall mood of the textbook seems toned deaf when it comes to inclusivity.

**Reviewer Professional Summation** - *These materials are reviewed by Level II and Level III educators from across New Mexico. The reviewers have brought their knowledge, experience and expertise into the review of these materials. They offer here their individual summary of the material as a whole.*

Reviewer #58 background and experience: 13+ years of secondary mathematics teaching in two states, from 6th grade through community college. A Level III license. A Master’s degree in Public Health. A Bachelor’s degree in Mathematics. Currently the Mathematics Coordinator for their district. Participated in instructional material reviews in the past. Wrote their own curriculum for several years in the classroom, as well as K-12 curriculum maps for their district, all aligned to Common Core.

**Professional summary of material:**

Overall, the structure of Carnegie Learning *Integrated Math III* does not differ much from *Integrated Math I* or *Integrated Math II*. The same design is present throughout the series, following their instructional approach - the Carnegie Learning Way. This presents some concern about the flexibility of the materials to suit the needs of students across New Mexico, as we have a very wide variety of levels of learning and styles of learning within each classroom within every school in the state. The publishers left a great deal of room for improvement in terms of making this personalized learning, as well as a poor effort to be culturally and linguistically responsive to the diverse student population of New Mexico. Ultimately, these would be decent materials for a relatively seasoned teacher who is able to supplement any materials with their own passion for mathematics and their own methods and strategies for supporting their students and providing specific opportunities for growth in math learning and ability. In the hands of a relatively new teacher, especially in New Mexico, this course could be very dry, very “vanilla”, and a long way from making math engaging and relevant for the students in this state. There are many areas in which these materials could be the standard, such as in developing skills with exponential and logarithmic functions and their potential applications to real-world scenarios, but there are other areas in which these materials leave something to be desired, such as in engaging the Standard for Mathematical Practice #3.

Reviewer #59 background and experience: Taught high school math for 23 years. Taught Pre-Algebra, Algebra 1, Algebra 2, Geometry, Algebra 2/Trigonometry, Pre-Calculus, Calculus, Integrated Math and other higher math subjects. A Level 3 educator. Awarded an Exemplary Teacher for SY 2017-2018. An assessment writer for a company that makes assessments for districts that use the Common Core Curriculum. Serves as a curriculum writer/assessment analyst for the reviewer's district. An Algebra 1 Instructional Coach before transferring to a college preparatory high school.

*Professional summary of material:*

The materials are aligned with the Common Core Standards. The Student Edition requires the students to be actively engaged with their learning. Carnegie Learning's *Integrated Math 3* provides hard copies of textbooks and software where students experiment and visualize the mathematical figures. The teachers are provided with a Teacher Implementation Guide that's easy to follow and the right support to hone their teaching practice. The guide offers insights, which are found in every introduction of a topic, on how students learn together with their teacher and learn individually with MATHia and the Skills Practice book.

There are a few things for the publisher to consider. Most topics or subtopics have limited activities. In order for conceptual understanding and mastery of procedural skills to take place, exposure to varying activities is needed. Teachers and students will be able to master the Common Core Standards *if* they're written in the Teacher's Guide, Student Edition, and the Skills Practice books. The goal of the materials is to be able to connect to and master the standards without searching and matching them with the topics.

Reviewer #60 background and experience: A high school math teacher in public schools for 18 years. A Level III educator with National Board Certification. Served as the head of the mathematics department for 15 years. Works in the private sector unpacking Common Core Curriculum for school districts across the country.

In almost every way, *Integrated Math III* feels like the most balanced of the books in the series. While identical in style and layout of the previous two books, topics seem to be given more attention, particularly with regard to procedural fluency. While there still feels like a significant lack of practice for students to master the standards, it is not the utter lack which characterized the previous book. While everything seemed rushed in *Integrated Math II*, particularly with the introduction of revelatory concepts like imaginary numbers and trigonometry, that is not the case with *Integrated Math III*. For example, the inaugural debut of logarithms is given considerable treatment as is the extensive work with algebraic operations on rational expressions.

Despite its size, *Integrated Math III* (as well as the other books in the series) has a very claustrophobic aura about it in the sense that it doesn't provide room for teachers to plan their own unique presentation of the standards. The book is really more than a reference; it is a strict program with a prescribed scope and sequence. A district would have to be committed to requiring its educators to follow this planned production, which may be helpful if the district had many low-performing or new educators. I like many of the activities in the book and the conceptual focus, yet find the overall product to be a bit stifling for someone who enjoys using professional experience to create engaging lessons.

Reviewer #56 background and experience: Level 2 teacher that has taught for 4 years. A Bachelors in Secondary Education, emphasis in Mathematics. Currently pursuing a Master's Degree in Curriculum and Instruction, emphasis in Education Technology. Taught Algebras 1 and 2, Geometry, and MATH 180 programs. A part of my district's efforts to create better vertical alignment for mathematics courses. Participated in several Professional Developments to receive training on the PLC process and how to better align good teaching practices to the classroom.

*Professional summary of material:*

IM= Instructional Material SE= Student Edition TE= Teacher Edition SW= Student Workbook

Since I was only given the task of reviewing the all content section, this summary will only reflect those parts. I felt that the presentation of the materials was great. The aesthetics of the materials could have done better, but it was not a distraction of the layout or the content of the course. Where the materials could have done better was in the cultural aspects of the all content. These materials did not give many examples of cultural experiences or aspects for New Mexico. It seemed like this would be the materials that they sent nationwide and they did not tailor it to fit any culture within a particular state. It also lacks in just having other cultures beyond the United States within the materials. There does not need to be a lot but these materials had close to none of those types of criteria within them. The other aspects of the criteria was great within the materials. The online portions, although limited in what it showed, gave the impression that it was very supportive and along with the physical materials is a great set of materials to use for this course. It was the right amount of research, content delivery, and structure needed for this course.

Reviewer #57 background and experience: Highly qualified, level three teacher in the state of New Mexico with 15 years of experience teaching Algebra 1 through Pre-Calculus. I hold a bachelor's degree in science with an emphasis in mathematics. I hold a master's degree in educational administration. I have been the math department at my school for the last seven years.

*Professional summary of material:*

The publisher did a solid job with the materials they presented to the state of New Mexico for teachers to use in their classrooms. The curriculum has a different feel to it in comparison to a "typical" mathematics text book. The format and wealth of support and extra information provided is a nice addition. The content within the text not only provides multiple opportunities for the teacher to differentiate instruction to their students but it also provides the students with a variety of ways to show what they know and prove that they have mastered the content being presented. The curriculum at first appears to be very wordy and dry, but the content is rich. The online component is also a nice addition to the curriculum and provides a lot of extra support both teachers and students need to be successful in a math classroom. While the material has a few drawbacks, I would recommend it be adopted by the mathematics teachers of New Mexico.

Reviewer #61 background and experience: 10 years of experience in education in New Mexico. Current content specialist for high school mathematics. Previously taught high school mathematics and supported middle school mathematics teachers. Taught students of all levels from Algebra 1 Intervention to AP Calculus. Level 3 teacher with a Masters degree. Worked with the NMPED in using the Making Sense of Student Work Protocol and revising the NM End of Course exams for mathematics.

*Professional summary of material:*

This is an engaging and thorough resource for students. I could envision using this with my students and seeing profound success as they make connections across mathematical topics. The consistency with the routines and structures of the material may seem tedious or boring, but is so valuable for students and only contributes to their success. A potential snag is that the curriculum assumes that students have the prerequisite knowledge to be successful. Provided that teachers can identify and adequately address those gaps, the material has strong potential. At the same time, the curriculum does a good job of providing tasks that have multiple entry points, so perhaps those prerequisite skills are not as important as traditionally perceived. The online companion is a great resource for students to use to practice procedural skills to build off of the conceptual understanding that they develop in the classroom setting. I would recommend this material with very limited reservations.