

Math Textbook Reviews:

Section 1, August 2014

Publisher: Cengage/National Geographic

Textbook Title: Pre-Calculus 6E
Grade band: High school advanced math

Focus Metrics	
A. In any single course, 100% of the content standards are present in the materials for that course	Yes
B. Topics from earlier courses are used to support course-level work. Content from prior course is clearly indicated as such.	Yes
Does this textbook meet the requirements for focus?	Yes
Justification/Notes: Alignment: The new correlation document supplied by the publisher shows that all standards have been met. An extension document will be supplied online and in print (upon request) which contains full lessons (instruction, examples, and problem sets) on standards not in the printed text. Chapter 1 is labeled Fundamentals and contains review of materials from previous courses.	

Rigor Metrics	
A. For the widely applicable prerequisites, the three aspects of rigor are given full attention: conceptual understanding, procedural fluency, and application.	Yes
B. High quality problems and questions designed to invite exploration and support conceptual understanding are included for content standards and clusters that explicitly call for it. A variety of conceptual problems enable students to connect mathematical ideas and representations, and transfer understandings to new situations.	Yes
C. Materials support the development of fluency, including opportunities to practice algebraic manipulation and computation, appropriately apply tools, and use technology. Sometimes problems are purely procedural, none are based on non-mathematical tricks or mnemonics.	Yes
Does this textbook meet the requirements for rigor?	Yes
Justification/Notes: Rigor: Practice problems focus on students solving problems algebraically with minimal problems solved using graphing utilities. There are places where students can go online to complete a project associated with a particular section or chapter as seen on page 263 (Discovery Project). At the end of each lesson, there are practice problems to address skill and fluency. Application problems are present and Discovery, Discussion, and Writing problems that asks students to make predictions, generalize, and decide on better methods as seen on page 263 although they do not usually ask students to justify or explain their reasoning. The lesson containing the Binomial Theorem (12.6), has 54 practice problems, 2 application problems, and 3 Discovery, Discussion, and Writing problems are present but do not ask students to justify their reasoning.	

Were both non-negotiables in Section I met? Yes

Optional Additional Comments from Reviewers: n/a

6a Materials connect the math practices to the content standards in meaningful and intentional ways. The development of the practices is well-grounded in content and not in isolation.	1	Mathematical Practices are present but not explicitly stated or referred to.
6b Materials include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development. Problems and activities present opportunities for students to make use of an exhibit the practices as they work on content.	1	There is a correlation document provided but it only cites a few examples and does not cite where practices are used throughout the entire text. Problems are presented that allow students to make use of the Mathematical Practices. Problems are presented that allow students to make use of the Mathematical Practices.
6c Particular attention is given to: MP3 - Construct viable arguments and critique the reasoning of others: Students are encouraged to create and test mathematical arguments, make generalizations and provide justifications, particularly in standards that explicitly call for it, in a manner of reasoning appropriate to the course.	2	.
6d Particular attention is given to: MP4 - Model with mathematics: Students should be given opportunities to apply mathematics learned in novel situations, with an appropriate tradeoff between the complexity and novelty of the problem and the newness of the content they are asked to use. Modeling problems should draw heavily from major work of the grade level or securely-held	2	

content, integrated across multiple domains/clusters where appropriate. Standards with explicit expectations for modeling are indicated with a star (*).		
7a Connections are made within a course between clusters and domains, where these connections are appropriate and natural.	2	
7b Materials are vertically coherent with previous courses and these connections are made clear in the materials. Materials include attention to the development of the math practices appropriate to the level of the course.	2	
8a Materials support teachers in ways such as the following: planning(including ideas for pacing), introducing lessons, assessment types, vocabulary.	2	<p>Vital Source EBook with 6 year access CourseMate premium Website with EBook PowerLecture DVD with ExamViewTesting DVD program</p> <p>Hard copy: Student Notetaking guide Study guide Student Solutions Manual Instructor's guide Lesson plans book Complete Solutions Manual Test Bank</p>
8b Materials are clear and easy to read for students, teachers, parents. The design and graphics do not distract from the mathematics.	2	
8c. Materials include supports for all learners, e.g., EL, students who are below grade level, advanced students.	0	No evidence is shown for support for all learners.