Math Textbook Reviews:
Section 1, August 2014

Publisher: Pearson/Prentice Hall

Textbook Title: Calculus: Graphical, Numerical, Algebraic
Grade band: High school advanced math

Focus Metrics	
A. In any single course, materials are designed so teachers and students spend at least 50% of their time on the Widely Applicable Prerequisites (see Appendix B).	Yes
B. Topics from future courses are clearly identified as such in the materials and do not detract from focus.	Yes
Does this textbook meet the requirements for focus?	Yes
Justification/Notes: Alignment: The separate correlation document provided by the publisher and the one in the textbook were both reliable. Some publishers consider L'Hopital's rule to be an integral part of the discussion of infinite limits while others do not. This publisher did not. Chapter 1 is labeled Prerequisites for Calculus and contained review material. Lesson 9.4 on Improper Integrals was the only lesson not required by The College Board.	

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: Lessons contain problems to be solved algebraically, graphically, and by writing explanations. Most lessons contain exploration or extending the idea questions to extend student learning. Each problem set contains problems designed for group exploration. At the end of each chapter there are review exercises, and an AP Exam section with multiple choice and free response practice problems that would appear on the AP Exam. Approximately every 3 lessons there is also a quick quiz of 4 problems (3 multiple choice and 1 free response) similar to AP Exam questions. When moving from finite sums to Riemann sums, the text makes the transition without using summation formulas. Other topics are covered at a very high level also.	

Using the lessons on the Fundamental Theorem of Calculus (6.4) as an example, there were 4 writing about concepts problems, 7 graphical reasoning problems, 55 integration problems to solve with increasing difficulty, and 3 application word problems.

Were both non-negotiables in Section I met? Yes

Optional Additional Comments from Reviewers:

Section 2

Pearson/Prentice Hall	Calculus: Graphical, Numerical, Algebraic	
	Number rating	Comments
6a Materials connect the math practices to the content standards in meaningful and intentional ways. The development of the practices is well-grounded n 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.	0	No teacher directed materials that explain the role of the practice standards.
6c Particular attention is given to: MP3 - Construct viable arguments and critique the reasoning of others:	1	Writing to Learn questions could be used to launch into critiquing the reasoning of others but it would have to be teacher planned and facilitated.

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.		
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 content, integrated across multiple domains/clusters where appropriate. Standards with explicit expectations for modeling are indicated with a star (*).	2	
7a Connections are made within a course between clusters and domains, where these	2	

connections are appropriate and natural.		
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	Materials provided for teachers include –
		• Downloadable
		  ○ Calculus Implementation Guide
		  ▪ Pacing Guides
		  ▪ Assignment guides
		  ▪ Topic correlations
		  ▪ Lessons
		  ○ Assessment Resources
		  ▪ Chapter quizzes and tests
		  ▪ Semester test
		  ▪ Final test
		  ▪ Alternate assessment
		  ○ PowerPoint Lectures
		  ○ AP Exam Preparation and Practice
		  ▪ Concept Worksheets

		▪ Practice Exams and answers • On CD o TestGen test generator o Video Lectures • Hardcopy o AP Test Prep practice exams and solutions o Solutions Manual (complete) o Ti Calculator Technology Resource Manual o Annotated Teacher's Edition • Online o MathXL for School (online homework, assessment, and instructional tutorials) • Optional o MyMathLab for School
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 EL material or material for below grade level. Extending the ideas could provide some above grade level material.