

Calculus with Early Transcendentals, 2nd Edition

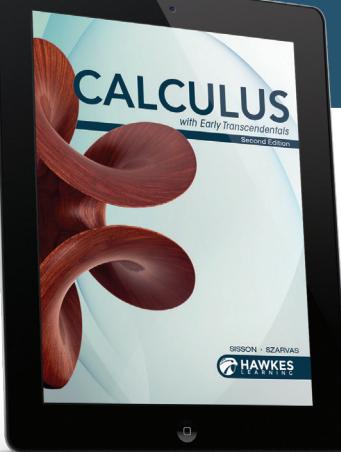
Question Bank Enhancements

We've released 283 new questions across 14 lessons in our Calculus products, expanding both the quantity and variety of practice. These additions include more lower-difficulty questions, textbook-aligned exercises, and new conceptual questions that prioritize reasoning and interpretation, helping students build confidence and deepen understanding.

Lesson	New Serial Numbers	What Changed
2.5	24–39	<p>In each new question, a graph is provided (as in the textbook exercises 1 and 2), and students are required to identify points of continuity and/or discontinuity, as well as discuss the three conditions necessary for a function to be continuous.</p> <p>In some of the new questions, the students will need to explain why the function is discontinuous at a given point.</p>
2.6	26–50	The new questions correspond to textbook exercises 3, 8, 9, 11, 12, 13, 14, 17, 33, 46, 49, 51, 74(b), and 75(b), along with variations of these problems. Additionally, two conceptual questions have been included to deepen students' understanding of the derivative and its meaning.
3.2	40–74	The new questions align with textbook example 1 (parts a, c, and e) and exercises 2, 3, 4, 6–10, 12, 16, 18, 23, 27, 46, 50, 54, 58, 59, 64, and 67, including selected variations to reinforce key concepts. In addition, four conceptual questions have been added to strengthen students' understanding of the application of basic derivative rules.
3.4	23–45	Most of the new questions focus on polynomial and polynomial-like functions, as well as simpler exponential and trigonometric functions, requiring students to apply the Chain Rule. For problems involving the equation of a tangent line, questions are structured in multiple parts to guide students through each step of the process, providing effective scaffolding.
3.5	23–41	The new questions are based on textbook exercises 2, 4, 8, 10, 14, 16, 21, 23, 26, and 55, with additional variations to reinforce key techniques. Four conceptual questions have also been included to strengthen students' understanding of implicit differentiation.
3.8	28–39	The new related rates problems are intentionally simplified and feature common geometric figures such as triangles, rectangles, and squares. Several questions are structured in multiple parts to guide students through setting up the problem and determining the required rate of change, providing a clear, scaffolded approach.
4.1	27–50	The new questions are based on textbook exercises 4, 5, 7, 27, 40, 41, 45, 50, 64, and 65, with additional variations designed to reinforce key concepts and clarify the distinction between critical points and extrema. Several questions focus specifically on identifying candidates for the absolute extrema of a function, providing targeted practice in this area.
4.5	16–40	<p>This lesson features the largest increase in new questions; all focused on the curve-sketching strategy to strengthen the connection between calculus concepts and the graphical representation of functions. The questions are based on textbook exercises 1, 11, 13–16, 28, 29, 33–36, along with variations. Several problems are structured in multiple steps to guide students through the curve-sketching process, providing effective scaffolding.</p> <p>In some cases, information about monotonicity and concavity is given, and students must analyze graphs to identify the correct one.</p>
5.2	23–34	The new questions are based on textbook exercises 4, 6, 14, 17, 34, 66–75, 76, 78, 106, and 107. Additionally, two conceptual questions have been added to strengthen students' understanding of the relationship between Riemann sums and the definite integral.
5.4	34–51	The new questions are based on textbook exercises 1, 3, 5, 6, 9, 18, 33, 37, 41, 52, and 62. We also included several new questions based on exercises 17–20 and 33 that focus solely on rewriting the given integral in terms of u and du , reinforcing substitution skills.
5.5	32–54	The new questions are based on textbook exercises 2, 45, 53, 54, 57, 59, 64, 69, and 75, with variations designed to scaffold students' understanding of finding the area between two curves. Several questions focus exclusively on setting up the integral that represents this area, reinforcing the conceptual framework before computation.

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6.1	21–39	The new questions are based on textbook exercises 21, 22, 23, 27–30, 32, 33, 35, 40(a), 44(a), and 50(a), with variations designed to scaffold students' mastery on finding volumes of solids. Several of the new questions concentrate exclusively on setting up the correct integral, reinforcing conceptual understanding before progressing to computation.
7.1	19–40	The new questions are based on textbook exercises 7, 9, 11, 17, 27, 31, and 52. Many are scaffolded, guiding students through identifying u , du , v , and dv to build procedural fluency. Two conceptual questions emphasize understanding the integration by parts technique, while two others focus on recognizing when to apply integration by parts versus u -substitution.
7.3	15–24	The new questions are based on textbook examples 4 and 5 and exercises 3, 5, 37, and 39. They are lower-level questions with several focusing on integrals of squared trigonometric functions such as $\sin^2 x$, $\cos^2 x$, $\tan^2 x$, and $\sec^2 x$.