The purpose of this document is twofold: (1) to list some errata in the current version of the textbook, and (2) to clarify conventions, terminology, and instructions that will be used on the final exam.

Some Textbook Errata (7th ed.)

- Chapter 2
  - §2.2 (p. 86): The boxed table (basic properties and rules for limits) also applies to one-sided limits. (Strictly speaking, this omission is not an erratum, but it should have been stated and it is important for students to know this.)

- Chapter 3
  - §3.8 (p. 203): In Figure 3.55b, the distance \(QS\) should be labeled as \(dy\) and the distance \(PS\) should be labeled as \(\Delta y\).
  - §3.8 (p. 207): Marginal cost is defined to be \(MC(x) = C(x + 1) - C(x)\) but later redefined in §4.7 to be \(C'(x)\) (and similarly for marginal revenue). The boxed statement on p. 208 is correct: \(C'(x)\) is an approximation to \(MC(x)\).

- Chapter 4
  - §4.1 (p. 226): In the yellow box, all instances of “\(D\)” should be “\(I\)”.
  - §4.3 (p. 252): In Figure 4.27, there are three errors: (1) the horizontal axis should be labeled as the \(t\)-axis, (2) \(12C\) should be replaced with \(12t\), and (3) the colors of the graph and text do not match correctly.
  - §4.3 (p. 253): In Figure 4.29, the number line should be labeled \(f'\) (not \(f''\)).
  - §4.3 (p. 259): In Exercise #42, the last line should be “\(f''(x) > 0\) when \(x > 2\)”.

- Appendix J (Answers to Selected Problems)
  - §2.4 (p. 495): The answer to exercise #35 (an official HW problem) should be \(\sqrt{91}\) (not 9).
  - §4.1 (p. 499): For the answer to exercise #3 (not an official HW problem), the table entry for endpoints should read “\(M = f(3) = 0\)”.

Exam Conventions

The following conventions will be used on the final exam.

- The terms “suspicious point”, “standard form” of the equation of a line, and “second-order critical number” will not be used on the final exam. Students will be told that any form of the equation of a line is acceptable.

- Marginal quantities:
  - Exam problems will make clear which notion of “marginal” is wanted.
  - If \(MC(x) = C(x + 1) - C(x)\) is wanted, the problem will have wording similar to “find the exact cost of producing the 11th unit”.
  - If \(MC(x) = C'(x)\) is wanted, the problem will have wording similar to “use marginal analysis to estimate the cost of producing the 11th unit”.

- Critical numbers and relative extrema:
  - Students will not be asked to find critical numbers or relative extrema in a problem where an endpoint might be considered to be one of these.
• Intervals of increase, intervals of concavity:
  
  – Students are allowed to include endpoints in intervals of increase, as long as what the student claims is actually correct (e.g., the endpoints are actually in the domain of \( f \)).
  
  – Students will not be penalized for saying that the function increases on a union of disjoint intervals even if this is mathematically wrong. (e.g., \( f(x) = -1/x \) is increasing on \((-\infty, 0) \cup (0, \infty)\)” will be marked as correct). Similarly, students will also not be penalized for listing such intervals in a comma-separated list or using the word “and” or even the word “or”.
  
  – Similarly for “decreasing”, “concave up”, and “concave down”.

• On the final exam, students must know all of the following formulas and special values, and similar kinds of formulas and special values (for instance, the total surface area of a rectangular box with an open top). If necessary, the formula for the volume or the surface area of a sphere, or the volume or the surface area of a cylinder, would be supplied.
  
  – the exact values of the 6 trigonometric functions at the standard special angles
  
  – standard values of logarithmic and exponential functions, e.g., \( \ln(1) \) and \( 3^0 \)
  
  – quadratic formula
  
  – Pythagorean theorem (also the 3-4-5, 6-8-10, and 5-12-13 triangles to save time)
  
  – area of a triangle (given base and height)
  
  – area and perimeter of a rectangle (including a square)
  
  – area and circumference of a circle
  
  – volume and total surface area of a rectangular solid (including a cube)

• On the final exam, students must know and understand the statements of the following theorems.
  
  – Intermediate Value Theorem (or Root Location Theorem; either one of these is allowed to be quoted)
  
  – Extreme Value Theorem
  
  – Rolle’s Theorem and Mean Value Theorem (students must know the equation that \( c \) must satisfy)
  
  – First Fundamental Theorem of Calculus
  
  – Second Fundamental Theorem of Calculus