

MATH 2413. CALCULUS I

Thomas' Calculus by George Thomas, Maurice Weir, Joel Hass and Frank Giordano (Eleventh Edition)

| Textbook Sections |
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| 2.1 Rates of Change and Limits |
| 2.2 Calculating Limits Using the Limit Laws |
| 2.3 The Precise Definition of a Limit |
| 2.4 One-Sided Limits and Limits at Infinity |
| 2.5 Infinite Limits and Vertical Asymptotes |
| 2.6 Continuity |
| 2.7 Tangents and Derivatives |
| 3.1 The Derivative as a Function |
| 3.2 Differentiation Rules |
| 3.3 The Derivative as a Rate of Change |
| 3.4 Derivatives of Trigonometric Functions |
| 3.5 The Chain Rule and Parametric Equations (The Chain Rule Only) |
| 3.6 Implicit Differentiation |
| 3.7 Related Rates |
| 3.8 Linearization and Differentials |
| 4.1 Extreme Values of Functions |
| 4.2 The Mean Value Theorem |
| 4.3 Monotonic Functions and the First Derivative Test |
| 4.4 Concavity and Curve Sketching |
| 4.5 Applied Optimization Problems |
| 4.6 Indeterminate Forms and L'Hopital's Rule |
| 4.8 Antiderivatives |
| 5.1 Estimating with Finite Sums |
| 5.2 Sigma Notation and Limits of Finite Sums |
| 5.3 The Definite Integral |
| 5.4 The Fundamental Theorem of Calculus |
| 5.5 Indefinite Integrals and the Substitution Rule |
| 5.6 Substitution and Area Between Curves |
| 6.1 Volumes by Slicing and Rotation About an Axis |
| 6.2 Volumes by Cylindrical Shells |
| 6.3 Lengths of Plane Curves |