Texas A&M Univ: Math 151–251 Stewart's Early Transcendentals, 7th Edition: Chapters & Sections

1. Functions and Models

1.1 Four Ways to Represent a Function

1.2 Math Models: A Catalog of Essential Functions

1.3 New Functions from Old Functions

1.4 Graphing Calculators and Computers

1.5 Exponential Functions

1.6 Inverse Functions and Logarithms

R1 Review

P1 Principles of Problem Solving

2. Limits and Derivatives

2.1 The Tangent and Velocity Problems

2.2 The Limit of a Function

2.3 Calculating Limits using the Limit Laws

2.4 The Precise Definition of a Limit

2.5 Continuity

2.6 Limits at Infinity; Horizontal Asymptotes

2.7 Derivatives and Rates of Change

2.8 The Derivative of a Function

R2 Review

P2 Problems Plus

3. Differentiation Rules

3.1 Derivatives of Polynomials & Exponential Functions

3.2 The Product and Quotient Rules

3.3 Derivatives of Trigonometric Functions

3.4 The Chain Rule

3.5 Implicit Differentiation

3.6 Derivatives of Logarithmic Functions

3.7 Rates of Change in the Natural and Social Sciences

3.8 Exponential Growth and Decay

3.9 Related Rates

3.10 Linear Approximations and Differentials

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R3 Review

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4. Applications of Differentiation

4.1 Maximum and Minumum Values

4.2 The Mean Value Theorem

4.3 How Derivatives Affect the Shape of a Graph

4.4 Indeterminate Forms and l'Hospital's Rule

4.5 Summary of Curve Sketching

4.6 Graphing with Calculus *and* Calculators

4.7 Optimization Problems

4.8 Newton's Method

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R4 Review

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5. Integrals

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5.3 The Fundamental Theorem of Calculus

5.4 Indefinite Integrals and the Net Change Theorem

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R5 Review

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6. Applications of Integration

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6.4 Work

6.5 Average Value of a Function

R6 Review

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