

Spring 2005 Math 152
Stewart: Chapters & Sections
Fri, 14/Jan/2005 **Art Belmonte**

6 Integrals [review]

- 6.4 The Fundamental Theorem of Calculus, Part 2
- 6.5 The Substitution Rule

7 Applications of Integration

- 7.1 Areas Between Curves
- 7.2 Volume
- 7.3 Volume by Cylindrical Shells
- 7.4 Work
- 7.5 Average Value of a Function

8 Techniques of Integration

- 8.1 Integration by Parts
- 8.2 Trigonometric Integrals
- 8.3 Trigonometric Substitution
- 8.4 Integration of Rational Functions by Partial Fractions
- 8.5 Rationalizing Substitutions [omitted]
- 8.6 Strategy for Integration [omitted]
- 8.7 Using Tables and Computer Algebra Systems [omitted]
- 8.8 Approximate Integration
- 8.9 Improper Integrals

9 Further Applications of Integration

- 9.1 Differential Equations
- 9.2 First-Order Linear Equations
- 9.3 Arc Length
- 9.4 Area of a Surface of Revolution
- 9.5 Moments and Centers of Mass
- 9.6 Hydrostatic Pressure and Force
- 9.7 Applications to Economics and Biology [omitted]

10 Infinite Sequences and Series

- 10.1 Sequences
- 10.2 Series
- 10.3 The Integral Test and Comparison Tests; Estimating Sums
- 10.4 Other Convergence Tests
- 10.5 Power Series
- 10.6 Representation of Functions as Power Series
- 10.7 Taylor and Maclaurin Series
- 10.8 The Binomial Series [omitted]
- 10.9 Applications of Taylor Polynomials

11 Three-Dimensional Analytic Geometry and Vectors

- 11.1 Three-Dimensional Coordinate Systems
 - 11.2 Vectors and the Dot Product in Three Dimensions
 - 11.3 The Cross Product
 - 11.4 Equations of Lines and Planes
- [Rest in Calc 3]