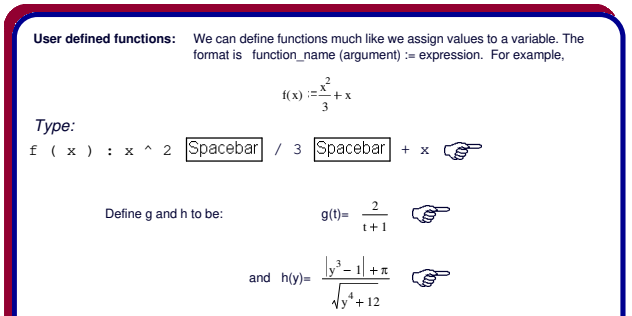
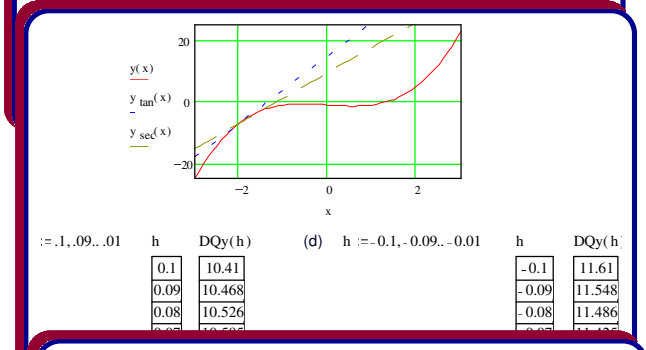
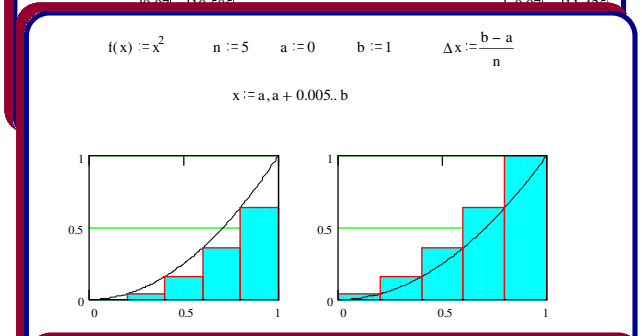
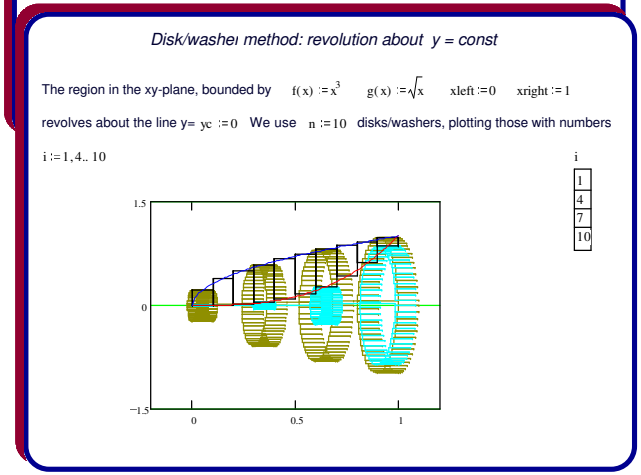
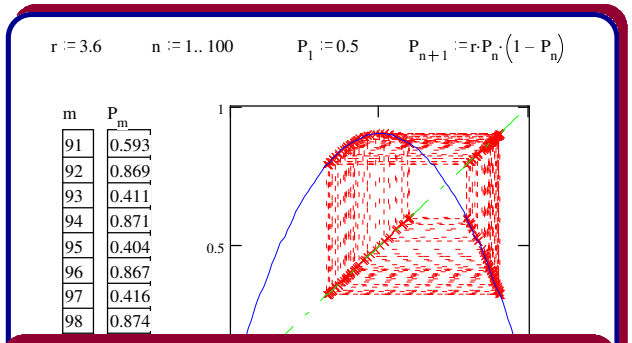
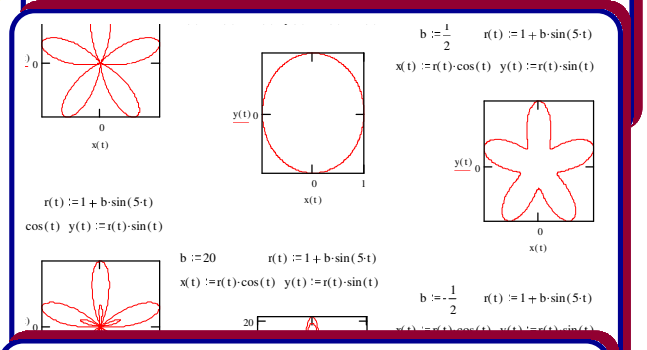
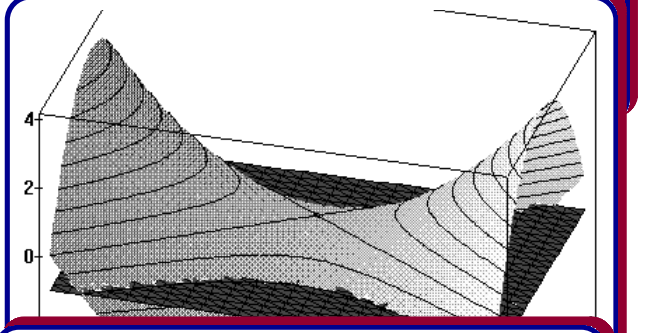
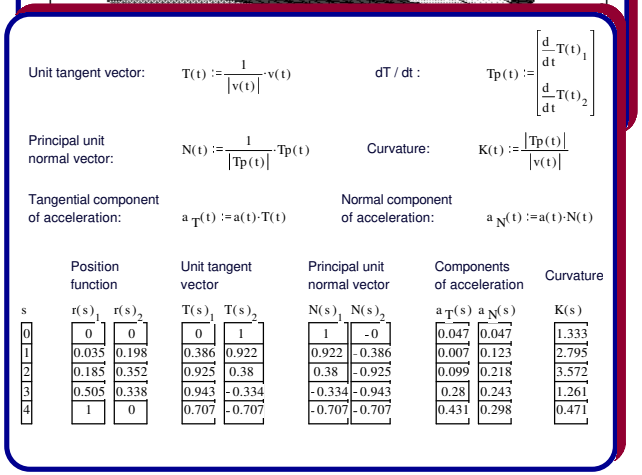
Computer-based Calculus

at Old Dominion University

CALCULUS I
MATH 207

CALCULUS II
MATH 208

These courses are designed to use computer technology to enhance students' understanding of calculus. Acquiring analytic skills by the students is stressed as much as it is in a traditional calculus course. However, certain aspects (primarily graphical and numerical) of calculus are emphasized to a much larger extent. Computer laboratory assignments and other computer-related class activities, using Mathcad and Maple, cover numerous topics including:

- Mathcad Basics
- Limits
- The Derivative
- Symbolic Differentiation
- Curve Sketching
- Riemann Sums
- Logarithmic and Exponential Functions
- Symbolic Integration
- Area
- Solids of Revolution
- Arc Length
- Sequences
- Series
- Taylor Polynomials
- Parametric Curves
- Polar Curves
- Vectors
- Lines and Planes
- Quadric Surfaces
- Vector-Valued Functions
- Curvature

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