

Math 151 E (Autumn 2008)

Sections to cover:

- 1.1 Four ways to represent a function
- 1.2 Mathematical models: a catalog of essential functions
- 1.3 New functions from old functions
- 1.5 Exponential functions
- 1.6 Inverse functions and logarithms
- 2.1 The tangent & velocity problems
- 2.2 The limit of a function
- 2.3 Calculating limits using the limit laws
- 2.5 Continuity
- 2.6 Limits at infinity; horizontal asymptotes
- 2.7 Tangents, velocities, & other rates of change
- 2.8 Derivatives
- 2.9 The derivative as a function
- 3.1 Derivatives of polynomials & exponential functions
- 3.2 The product & quotient rules
- 3.3 Rates of change in the natural & social sciences
- 3.4 Derivatives of trigonometric functions
- 3.5 The chain rule
- 3.6 Implicit differentiation
- 3.7 Higher derivatives
- 3.8 Derivatives of logarithmic functions
- 3.10 Related rates
- 4.1 Maximum & minimum values
- 4.2 The mean value theorem
- 4.3 How derivatives affect the shape of a graph
- 4.5 Summary of curve sketching
- 4.7 Optimization problems
- 4.10 Antiderivatives