

Numerical Integration assignment (up to 3% of the grade)

Approximate the integral from Ex. 20, p. 226 to within 10^{-6} . The solution should use YOUR implementation of one of the methods of numerical integration from section 7.4 and should include a rigorous estimate of the error. You may use any programming language of your choice (C+, Mathematica, Matlab, Maple, programmable calculator). You will need to supply the code, or otherwise describe the algorithm and explain how you implemented it. Solutions which use "off the shelf" implementations but include a rigorous estimate of the error will be accepted for partial credit. "Rigorous" means mathematically complete; as an illustration: in the example shown in class deducing estimates or monotonicity of a function from the graph was not allowed, while using *Mathematica* or other application to calculate symbolically a derivative was OK.

The assignment is due on Friday, March 27, 2009, preferably by email. You may work in two-person teams; each team submits just one project. The submission needs to be written in English, that is, full sentences interspersed with mathematics, and not just a bunch of formulas.