
MA386 - Introduction to Numerical Analysis
Homework Assignment 6, 100 points
Due Nov 3 by COB

As usual, show all work and include a printout if you use a computer to solve any problems.

1. Section 4.4: 12a, 12b. Here you are to use the error formulas from Theorems 4.4 and 4.5 to find n and h *without* approximating the integral. Then use the MATLAB commands `simpsonquad` (emailed to you earlier) and `trapquad` (written in class) to help verify your answers.
2. Section 4.5: 2a.
3. Section 4.7: 1a, 2a, 3a. Compare each answer to the correct value and give the error.
4. Verify that the roots and coefficients in Table 4.11 corresponding to $n = 3$ lead to a quadrature method that is exact for all polynomials of degree 5.
5. Section 6.2: 9a. Compare your answer to the actual solution. Then do 13a. Show all work.