

Introduction to Week Four

Elementary Integration Formulas

Composite Integration Formulas

- ✓

Video: Composite Quadrature Rules | Lecture 39
12 min
- ✓

Reading: Simpson's 3/8 Rule
10 min
- ✓

Video: Gaussian Quadrature | Lecture 40
8 min
- ✓

Reading: Three-point Legendre-Gauss Quadrature
10 min
- ✓

Video: Adaptive Quadrature | Lecture 41
11 min
- ✓

Reading: Computing the Error in an Adaptive Quadrature
10 min

Quadrature in MATLAB

Interpolation

Interpolation in MATLAB

Quiz

Programming Assignment: Bessel Function Zeros

Computing the Error in an Adaptive Quadrature

Consider $I = \int_0^h f(x) \, dx$ with $f(x) = x^3$. Using the trapezoidal rule, compute S_1 , S_2 , E_1 and E_2 and show that $E_1 = 4E_2$.

✓ Completed Go to next item

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