HG3MCE—Computerised Mathematical Techniques in Engineering

Problem Class 3

Some exercises on quadrature and linear algebra for the problem class of 9th March. Remember to set your calculator to use radians!

- 1. Find to 4dp: (a) $\int_0^1 \exp(-\exp(-x)) dx$; (b) [Harder!] $\int_0^{\pi/2} \log x \cos x dx$.
- 2. Use Gaussian elimination to invert the matrix

$$\begin{pmatrix} 2 \ 1 \ 2 \ 3 \\ 0 \ 1 \ -1 \ -1 \\ 1 \ 0 \ 3 \ 4 \\ 2 \ 2 \ 1 \ 3 \end{pmatrix}$$