

Assignment 9. Midpoint and Trapezoidal method

Marks 10

Posted on 08.10.2025 @ 2:30 pm and due on 08.10.2025 @ 6:00 pm

1. Using both Midpoint and Trapezoidal method evaluate the following integrals and compare with the analytical results, for $N = 4, 8, 15, 20$. Present the result in tabular form.

$$\int_1^2 \frac{dx}{x} = 0.69314718, \quad \int_0^{\pi/2} x \cos dx = \frac{\pi}{2} - 1, \quad \int_0^1 x \tan^{-1} x dx = \frac{\pi}{4} - \frac{1}{2}$$