

Introduction to Week Four

Elementary Integration Formulas

✔ **Video:** Midpoint Rule | Lecture 36
8 min

✔ **Reading:** The Midpoint Rule is the Area of a Rectangle
5 min

📖 **Reading:** Midpoint Rule for a Quadratic Function
10 min

▶ **Video:** Trapezoidal Rule | Lecture 37
8 min

📖 **Reading:** Derive the Trapezoidal Rule
10 min

▶ **Video:** Simpson's Rule | Lecture 38
6 min

📖 **Reading:** Derive Simpson's Rule
15 min

Composite Integration Formulas

Quadrature in MATLAB

Interpolation

Interpolation in MATLAB

Quiz

Programming Assignment: Bessel Function Zeros

The Midpoint Rule is the Area of a Rectangle

The area of a rectangle with base h and height $f(h/2)$ is given by $hf(h/2)$. Draw a graph illustrating the midpoint rule.

✔ **Completed** **Go to next item**

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