







- Introduction to Week Four
- Elementary Integration Formulas
- Composite Integration Formulas
- Quadrature in MATLAB

Interpolation

-  **Video:** Interpolation | Lecture 43
10 min
-  **Reading:** Linear and Quadratic Interpolation
10 min
-  **Video:** Cubic Spline Interpolation (Part A) | Lecture 44
15 min
-  **Reading:** Cubic Spline Interpolation with Endpoint Slopes Known
10 min
-  **Video:** Cubic Spline Interpolation (Part B) | Lecture 45
10 min
-  **Reading:** Cubic Spline Interpolation with the Not-a-Knot Condition
15 min

Interpolation in MATLAB

Quiz

Programming Assignment: Bessel Function Zeros

Linear and Quadratic Interpolation

Consider the points $(0, 0)$, $(1, 1)$ and $(2, 1)$.

- (a) Find the quadratic polynomial that interpolates these points. What are the interpolated y -values at $x = 1/2$ and $x = 3/2$?
- (b) Find the two piecewise linear polynomials that interpolate these points. What are the interpolated y -values at $x = 1/2$ and $x = 3/2$?
- (c) Use MATLAB to plot the three points and the two interpolating functions.

 **Completed** [Go to next item](#)

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