EML3041 Computational Methods

Fall 2023

Week 8: October 9- October 13

Answer the free-response question#1 on fresh sheets of paper. *Solve the problem as if you were submitting them for a test.* Identify each part separately.

1) The following data of the velocity of a body as a function of time is given as follows.

Time (s)	0	15	18	22	24
Velocity(m/s)	22	24	37	25	123

Using quadratic interpolation, the interpolant

$$v(t) = 9.50000t^2 - 383t + 3853$$

approximates the velocity of the body between 18 and 24 seconds. From this information, find out if and when the velocity of the body is 26 m/s during the above time interval?

Answer: $t = 22.03\ s, 18.28\ s$