

Assignment 4

Numerical Computing
B. Math. Year 1,
January - May 2022.

Due on: May 06th, 2022.

Please give arguments where necessary. If it is unclear from your answer why a particular step is being taken, full credit will not be awarded. Please feel free to discuss amongst yourselves; however, copying the assignment solutions from someone else is strictly prohibited and both persons involved will be penalized.

Each one of you must submit your own answers. Total: **60 points**.

1. (a) Problem 5, (a), (b), (c) and (d), page 185, **SB** [5 + 7 + 6 + 7 points].
(b) Problem 7, page 185, **SB** [8 + 2 points].
(c) Problem 14, page 186, **SB** [6 points].
(d) Problem 15, page 186, **SB** [9 points].(It is interesting, for me at least, to know of this expression, in a combination of roots of the Legendre polynomials and Lagrange polynomials built out of those roots. Enjoy.)
(e) Problem 18, (a) and (b), page 187, **SB** [5 + 5 points].