

MATH661: Homework 4

Issued: 10/21/15

Due: 10/28/15

Notation: K&C = Kincaid & Cheney textbook

1.a. K&C p.91, 3.2.17

1.b. K&C p.91, 3.2.18

2.a. K&C, p.92, 3.2.19

2.b. K&C, p.92, 3.2.20

3.a. K&C, p.106, 3.4.6

3.b. K&C, p.106, 3.4.7

3.c. K&C, p.106, 3.4.12

3.d. K&C, p.106, 3.4.13

4.a. K&C, p.107, 3.4.20

4.b. K&C, p.107, 3.4.25

4.c. K&C, p.108, 3.4.38

5.a. (Computational problem) K&C, p. 92, 3.2.1., 3.2.2, 3.2.9

5.b. (Computational problem) K&C, p. 92, 3.2.7.

EC1: Implement Horner's scheme to evaluate a polynomial and its first two derivatives and the Laguerre and Graeffe-Lobachevski root-finding methods. Apply to polynomials from Computer problems 3.5.6, 3.5.7, p.130. Analyze the results. Comment on the efficacy, computational cost of each method.