

MATH 692: Homework 3 (revised)

Due date: Mar. 19

1. Section 3.2: Problem 2.
2. Section 3.3: Problem 1. Use the basis functions:

$$\phi_k(x) = (1 - x^2)T_k(x), \quad k = 0, 1, \dots, N - 2.$$

3. (optional for math students) Section 3.5: Problem 2. You can use the matlab program “pcg” with a function handle; or I can point you a simple subroutine for fortran PCG if you want use fortran.
4. Section 3.6: Problem 4.
5. (optional for non-math students) Section 3.7: Problem 1.
6. (optional for non-math students) Section 3.7: Problem 3.