AM 33: Homework # 7

Due date: Nov 5 for students in section 1 (E) and Nov 6 for students in section 2 (J).

Attention: For the preparation of exam, the solution of this assignment will be posted on the web sometime during the week Oct 29 – Nov 2. However, you still need to hand in this homework at the specified dates above.

The book we refer to is Boyce & DiPrima, *Elementary Differential Equations and Boundary Value Problems* (7th Edition).

- Section 3.4, problem 41.
- Section 3.5, problems 26, 32.
- Section 3.6, problems 15, 17.
- Section 3.7, problems 15, 21, 22.
- Find the solution to the following initial value problem

$$y'' + 4y' + 5y = g(t), \qquad y(0) = 0,\ y'(0) = 1$$

for any function $g(t)$. You may leave the answer in the form of definite integrals. (*Hint:* use the result from problems 21, 22 that you just did.)