

MATH 3113 – Homework assigned on 11/1/13

Sec. 4.1: Problems 2, 10.

Sec. 5.1: Problems 1, 3.

Additional problem. Solve the initial value problem

$$\begin{aligned}x'' + 9x &= 6 \cos 3t , \\x(0) &= 0 , \quad x'(0) = 0\end{aligned}$$

by using each of the following methods:

- (a) the method of undetermined coefficients (see Sec. 3.5 of the book and my handouts for Lectures 17 and 18 on the class web-site);
- (b) Laplace transform (to compute the inverse Laplace transform, you may need to use Example 5 on p. 459 of the book);
- (c) Duhamel's principle (see p. 500 of the book).