

MA 520 Spring 2024 (Aaron N. K. Yip)

Homework 4

Due: Thursday, Jan. 19, in class

Folland: Fourier Analysis and Its Applications

Section 1.1 (p.7): #1, 2, 3, 4, 7, 8;

Section 1.2 (p.11): #5;

Section 1.3 (p.17): #3, 4.

Additional Problem

Solve the following system of linear equation:

$$\ddot{X}(t) + 2\dot{X}(t) = \begin{pmatrix} -5 & 2 \\ -6 & 2 \end{pmatrix} X(t), \quad X(0) = \begin{pmatrix} 1 \\ 1 \end{pmatrix}, \quad \dot{X}(0) = \begin{pmatrix} 1 \\ -1 \end{pmatrix}.$$