

18.06 Spring 2013 – Problem Set 10

Here are review problems about Fourier series and complex matrices and linear transformations. THESE PROBLEMS WILL NOT BE COLLECTED. These topics will not be on Quiz 3 which ends with the SVD – potentially they could appear on the final.

Note: Your recitation instructor is responsible for allowing late homework submissions, as well as the re-grading of your PSet. If there is any problem with your PSet, contact your recitation instructor!

1. Write $\cos(x + \pi/3)$ as $A \cos x + B \sin x$. This will be its Fourier series. What is the projection of $b = \cos(x + \pi/3)$ onto the line through $a = \sin x$?
2. Do Problem 1, 3, 8 and 16 from Section 10.2.
3. Do Problem 3 and 10 from Section 7.1.