

Physics 129a
Problem Set Number 1
Due Wednesday, October 10, 2007

Reading: Chapter 4 of Mathews and Walker, on Integral Transforms. I expect that much of this chapter will be review to many of you, but I would like to hear from you if not (or even if so)! Also, sections 1–3 of the note (posted on the course web page) on “Integral Equations” deal with this subject. Most of the material, except for the addition of Laplace’s method, is the same as in Mathews and Walker, but there is a somewhat different perspective presented, as well as some brief discussion of questions of rigor.

1. Exercise 4 in the Integral Equations course note.
2. Exercise 7 in the Integral Equations course note.

In this and all problems in this course, I urge you to avoid look-up tables (e.g., of integrals). If you do feel the need to resort to tables, however, be sure to state your source.

3. Exercise 8 in the Integral Equations course note.
4. Mathews and Walker problem 4-14.