

Physics 129a  
Problem Set Number 9  
Due Wednesday, December 5, 2007

Reading: Finish reading Mathews and Walker chapter 12, on the calculus of variations.

40. Evolving a wave function with the free particle propagator: Exercise 19 in the Linear Differential Equations note.
41. The Helmholtz equation, part II: Exercise 10 in the Linear Differential Equations note. When you add the homogeneous solution, you may find “expansion coefficients” in the form of integrals (when imposing the boundary condition). It is all right to leave these as integrals.
42. Green’s function for the infinite square well: Exercise 17 in the Linear Differential Equations note.
43. Mathews and Walker 12-6.