Physics 214: Waves and Quantum Mechanics
Spring 2009
Problem Set 9

Due: Wed 15 April 2009

Reading:

Fri 4/10: Townsend Sec. 4.4

Mon 4/13: Townsend Sec. 4.6

Wed 4/15: Townsend Sec. 4.7

Problems (continued on other side):

1. Which is the correct potential? Townsend Problem 4.5.

2. Semi-infinite square well and its relation to a finite square well. Townsend Problem 4.9. This problem illustrates a common trick: the odd wave functions of an even potential vanish at the origin. Thus, they satisfy the boundary conditions on $\psi(x)$ at $x = 0$ in the related problem in which the $x \leq 0$ portion of the potential is replaced by $V = \infty$.

3. Constructing qualitative plots of the wavefunction I. French & Taylor Problem 3.15.


5. Feedback. By Wednesday, please send me an email message to provide feedback on the class and on your reading. (My email address is mbschulz at brynmawr.edu). For example: Which parts were easier or harder to understand? Do you have any questions that you would like to clarify or areas where you would like more practice in recitation section? Was there something that you found particularly interesting or uninteresting? As you know, we are using a prepublication version of the textbook. If you have any thoughts on how to improve the textbook for future students taking this class, please let me know and I will pass that information on to John Townsend.