Homework 8

Due Tuesday 11/17/2009 at 5:30pm in my box in physics. These may also be handed in at the end of Justin Mitchell's office hours in PHYS 228 from 4:00-5:30pm Tuesday.

Fowles Problems

6.1

6.3 Note, Justin worked this out on the practice test. Now you need to work it, a very cool problem.

6.5

6.9

6.10

6.16

6.18

E1 Compute the gravitational field strength 1cm from the center of a thin linear object a distance 1m long with linear mass density $\lambda = 5\text{kg/m}$. Check by assuming the object is infinitely long and applying Gauss' law for gravity. Compute the gravitational potential as a function of distance along a line perpendicular to the object. Show your field strength is the appropriate derivative.