Phys 410 – Homework #11

All problems from Taylor.

1) 9.28 (a & b)
2) 9.30

Extra Credit: Equation 9.57 of the textbook gives the eastward deflection of an object dropped from rest on the earth's surface. The calculation is accurate to first order in (Ω). Continue the calculation and determine the southerly deflection in terms of the height (h), co-latitude (θ), (g), and (Ω). The southerly deflection is second order in (Ω). Compare the (1st order) eastward deflection from Eq. 9.57 to the (2nd order) southerly deflection for an object dropped 100 meters in College Park.

Optional problems, for further study. If you attempt one of these, we will read your solution and give you written feedback. No extra credit. Solutions will be posted.

1) 9.3
2) 9.4
3) 9.20