

LATE HOMEWORK INCURS -10%/WEEKDAY LATE, UP TO 50% MAXIMUM

You must staple all of your sheets together. All handwritten work must be neatly written.

1 Particle Data Group (PDG): Particle Physics Booklet (PPB)

This problem requires that you have a PPB. If you do not have a physical copy, then **you should order one immediately**. You DO NOT want the “RPP=Review of Particle Properties”. You only want the PPB. In the meantime, you can look up these answers on the web at <http://pdg.lbl.gov/2012/download/rpp-2012-booklet.pdf>.

(a) Make a “look up table” for your copy of the PPB. What are the major sections of the booklet? Make an outline for yourself. You can use this look up table to help you “look things up” on your final exam.

(b) Which is known better the electron’s magnetic moment or the muon’s magnetic moment?

(c) Which is known better the electron’s magnetic moment or its dipole moment.

(d) Why do both the muon and electron have the same value of J ?

2 Griffiths Problem 9.2

3 Griffiths Problem 9.3

4 Griffiths Problem 9.9