Phys 410

Fall 2013

Homework #1

Due Thursday, 12 September, 2013

All problems are from Taylor, *Classical Mechanics*.

1) Problem 1.10 Circular motion
2) Problem 1.26 Motion in inertial and non-inertial reference frames
3) Problem 1.31 Conservation of linear momentum
4) Problem 1.36 Newton's 2nd Law of motion
5) Problem 1.46 Motion as seen in a non-inertial reference frame
6) Problem 1.48 Cylindrical polar coordinates
7) Problem 2.3 The Reynolds number
8) Problem 2.4 Origin of the quadratic drag force
9) Problem 2.8 Motion with a different drag force law
10) Problem 2.24 Terminal velocities
11) Problem 2.35 Vertical motion with quadratic drag
12) Problem 2.46 Complex numbers

Extra Credit

1) Problem 1.50 Periodic motion in an anharmonic potential