

October 13, 2004

PHY138 – Written Homework #5

This problem set is due by 5PM on Monday, October 18 in the Drop Boxes.

From the Textbook

Chapter 5:

- Problem #5
- Problem #29

Post-Tutorial

From the McDermott and Shaffer **Homework** book, answer all the question in the ***Rotational Motion*** section, pages 65 – 66. I recommend you do this after your tutorial.

Supplemental Problem

Go to the web page:

<http://faraday.physics.utoronto.ca/PVB/Harrison/Flash/ClassMechanics/AirTrack/AirTrack.html>

1. For elastic collisions and each of the 3 possible values of the mass of the right-hand cart, is the total kinetic energy of the carts conserved?
2. For the 3 possible values of the mass of the right-hand cart, show that the total kinetic energy of the 2 carts is not conserved for *inelastic* collisions. Calculate the energy that is lost for each case.
3. For the inelastic collisions, where did the energy go?