

# Homework 8

**Due** Wednesday, November 13, 12:50 pm in class.

**Reading:** Chapter 7 from the textbook.

**Note:** Make your solutions neat, concise, and intelligible. It is not sufficient just to state the answer. Points may be deducted, if it is difficult to find and/or understand the solutions.

**Problem 1.** Ion trap. Problem 7.3★ from the textbook.

**Problem 2.** Particles on a spring in 1 dimension. Problem 7.8★★ from the textbook.

**Problem 3.** Lagrange with friction. Problem 7.12★ from the textbook.

**Problem 4.** Acceleration of a yoyo. Problem 7.14★ from the textbook.

**Problem 5.** Bead on a helix. Problem 7.20★ from the textbook.

**Problem 6.** Pendulum in an elevator. Problem 7.22★ from the textbook.

**Problem 7.** Oscillator inside a rocking cart. Problem 7.23★ from the textbook.