Homework 4

Total 31 points

Due Monday, September 30, 12:50 pm in class.
Reading: Chapter 4 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. Practicing line integrals. Problem 4.2⋆⋆ from the textbook.
Problem 2. Pulling a string. Problem 4.4⋆⋆ from the textbook. (See also Problem 3.25)

Problem 3. A spherical slide. Problem 4.8⋆⋆ from the textbook.

Problem 4. Deriving the force from a given potential energy function. Problem 4.16⋆ from the textbook.

Problem 5. Gravitational force and potential energy. Problem 4.24⋆⋆⋆ from the textbook.

Problem 6. Pendulum. Problem 4.34⋆⋆ from the textbook.