

Modern Physics Problem Set 1

Due: Sep 9, 2025

Problem 1

- a) For the light clock described on page 5 of Taylor & Wheeler, determine the period of the clock in seconds.
- b) Our class is 90 minutes long. Convert this time into meters.

Problem 2

Consider the “modern inertial frame” advertised in the newspaper clipping on page 10 of Taylor & Wheeler. Can you think of an experiment you could do inside the 4 ft. chamber that would show that the reference frame is not really an inertial frame? What accuracy of measurement would your experiment require?