

Group Project 5

Names:

The following project involves 2 main parts. First, a 10 min class presentation using your favorite medium (powerpoint, boardwork,...). Second, the class presentation will be followed by a written report due the same day. Your report should be typed up (**not** handwritten). Both the class presentation and the written report will be equally weighted to compute your grade. You are not allowed to seek help from anyone outside of your group for this project.

Clock Pendulum The pendulum in a grandfather clock makes one complete swing every 2 s. The maximum angle that the pendulum makes with respect to its rest position is 10° . We know from physical principles that the angle θ between the pendulum and its rest position changes in simple harmonic fashion. Find an equation that describes the size of the angle θ as a function of time. (Take $t = 0$ to be a time when the pendulum is vertical.)

