

## Module 10 - Lesson 3

### The Simple Pendulum

**Question 1:** A 1-kg metal sphere attached to a 1-m long rope is suspended from one end and set swinging. Find the period of the resulting small-amplitude oscillations.

**Question 2:** A simple pendulum of length  $L = 40.0$  cm and makes 100.0 complete oscillations in 4.00 min. Find the value of  $g$  at the location of the pendulum.

**Problem:** A 1-kg mass is suspended from a 50-cm long thread that can sustain a tension of 10.0 N before breaking. Find the maximum allowable amplitude for pendulum motion of this system.