

Physics 10154 - Quiz 10B

A 2.45-kg mass is attached to a horizontally-oriented spring ($k_s = 385 \text{ N/m}$) on a frictionless table. The spring is compressed by a maximum distance of 16.2 cm and the mass is released from rest at that position.

- a) What is the speed of the mass when it passes through the equilibrium position of the spring?
- b) What is the mechanical energy of the system?
- c) What is the distance, x , from the equilibrium position of the spring when the kinetic energy represents 80.0% of the total mechanical energy of the system?