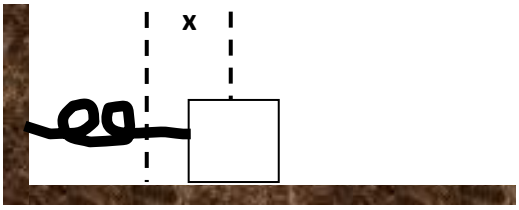
When 0.5 kg mass is hung from a spring, the spring stretches 30 cm. The mass and spring are now used to construct a horizontal oscillator. The oscillator is started from a position 40 cm in the positive x-direction and given an initial speed of 2.5 m/s also in the positive x-direction as shown.



A. What is the angular frequency of the oscillator?
B. What is the oscillator's period?
C. What is the energy of the oscillator?
D. What is the amplitude of oscillation?
E. What is the maximum speed of the oscillator?
F. Find the position and velocity of the oscillator at t = 2.2 seconds.

A point mass of 0.6 kg is attached to a 2.8 m long string to make a simple pendulum.

A. What is the period of the pendulum?

B. If the pendulum is pulled back to an angle of $\frac{\pi}{10}$ radians and released, what is the maximum speed of the pendulum.

A uniform bar of mass 0.6 kg and length 0.4 m is made to pivot about its end to make a pendulum. What is the pendulum’s period?