**Noteguide for Simple Harmonic Motion Energy (Video 11B) Name**

ET – Total energy (Ek + Ep)

Ek – Kinetic Energy

Ep – Potential Energy

ω – “Angular” velocity (rad/s)

x – Position (at some time) (m)

xo – Max Position (Amplitude) (m)

v – Velocity (at some time) (m/s)

 

  

Energy Example – An SHO has an amplitude of 0.480 m, a mass of 1.12 kg, and a period of 0.860 seconds.

a) What is its angular velocity?

b) What is its total energy? What is the maximum kinetic energy and maximum potential energy?

c) What is the kinetic and potential energy when the velocity is 3.00 m/s?

d) What is the kinetic energy when it is 0.230 m from equilibrium? What is its potential energy here?

e) Write possible equations for its position and velocity: