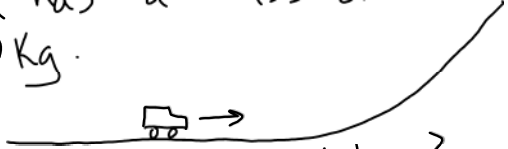
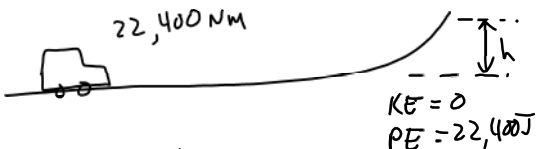
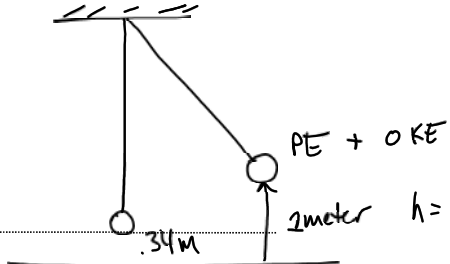


Sec 8 - CP
 CLT show how energy is conserved in a pendulum by using KE + PE

Pg. 110 Conservation of Energy
 A car is moving $\frac{8m}{s}$ and has a mass of 700 Kg.

 How much KE does it have?
 $KE = \frac{1}{2} mv^2$
 $= \frac{1}{2} 700Kg \left(\frac{8m}{s}\right)^2$
 $= \frac{1}{2} (700Kg) \left(\frac{64m^2}{s^2}\right)$
 $= 22,400J$


 $22,400 Nm$
 $KE = 0$
 $PE = 22,400J$
 $g = \frac{9.8m}{s^2}$
 $m = 700Kg$
 $PE = mgh$
 $\frac{22,400 Nm}{mg} = \frac{mgh}{mg}$
 $\frac{22,400 Nm s^2}{(700Kg)(9.8m)} = \boxed{3.27m}$


 $PE + 0 KE$
 $2meter$
 $h =$
 $0.34m$
 $KE + 0 PE$
 1. Find PE at top
 2. That's the same as KE at bottom
 3. Find V at bottom $h = .66m$
 $m = 7.2 Kg$ $PE = mgh$
 $= 7.2Kg \left(\frac{9.8m}{s^2}\right) (.66m)$
 $= 46.57 Nm$

 $KE_{bottom} = 2(46.57 Nm) = \frac{1}{2} mv^2$
 $\frac{93.14 Nm}{7.2Kg} = \frac{m}{m} v^2$
 $12.94 \frac{m^2}{s^2} = v^2$
 $v = \sqrt{12.94 \frac{m^2}{s^2}} = 3.6 \frac{m}{s}$

$$KE = \frac{1}{2} MV^2$$

$$PE = mgh$$

$$PE_1 + KE_1 = PE_2 + KE_2$$

Homework