Name: **Sec.# (8) ---Quiz (1)-Ch(1)** **S.N:**

ID : Phys 101 (Term 041)-(*F. Enaya*)

Show your steps clearly for full credit.!!

Q.1: The final velocity of a drop of water falling through the atmosphere is given by: $v = (2/9)(r^2 g \rho / n)$ where v is the velocity of the drop in m/s; r is the radius in m; g is the acceleration due the gravity in m/s^2; and ρ is the density of the water in kg/m^3. What must be the unit of n, the coefficient of the velocity of the air which the drop falls?

In units :

$$n = (r^2 g \rho)/ v = (m^2 . m . kg/m^3)/(m/s) = (kg/s . m)$$

Q.2: Speed of the sound is 340 m/s. Express this in mile per hour. (1 mile = 1609 m)

$$\frac{340\ m}{s} \times \frac{1\ mile}{1609\ m} \times \frac{3600\ s}{1\ h} = 760.72\ \frac{mile}{h}$$