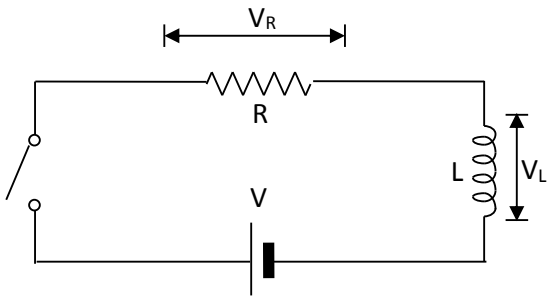
Name: _____

PHY 232 Summer 2016 Class Work

Class 35. Work on Last Class - RL Circuit

PART A.



Switch is closed at t=0.

(a) What is the value of the following quantities at t=0 (in terms of V, R, and L):

I = _____ V_L= _____ V_R= _____

(b) What is the value of the following quantities at t=∞ (in terms of V, R, and L):

I = _____ V_L= _____ V_R= _____

(c) Write down the following quantities as a function of time (in terms of V, R, L, and t):

I (t) = _____

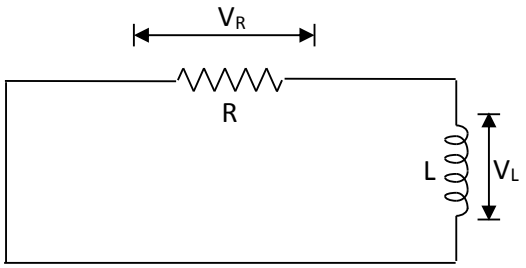
V_L(t) = _____

V_R(t) = _____

P_R(t) = _____ (P_R = Power dissipated in R)

U_L(t) = _____ (U_L = Energy stored in R)

PART B.



If current through the resistor is I_0 at t=0.

(a) What is the value of the following quantities at t=0 (in terms of R, L, and I_0):

I = I_0 V_L= _____ V_R= _____

(b) What is the value of the following quantities at t=∞ (in terms of R, L, and I_0):

I = _____ V_L= _____ V_R= _____

(c) Write down the following quantities as a function of time (in terms of R, L, I_0 and t):

I (t) = _____

V_L(t) = _____

V_R(t) = _____

P_R(t) = _____ (P_R = Power dissipated in R)

U_L(t) = _____ (U_L = Energy stored in R)