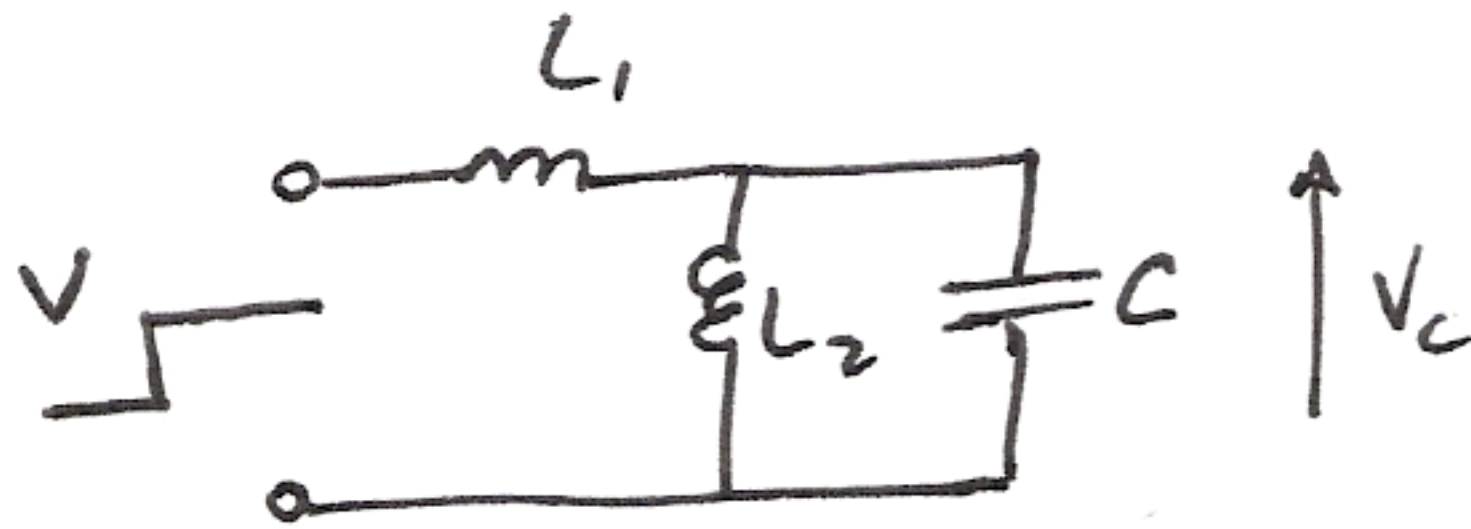


P 3.2/



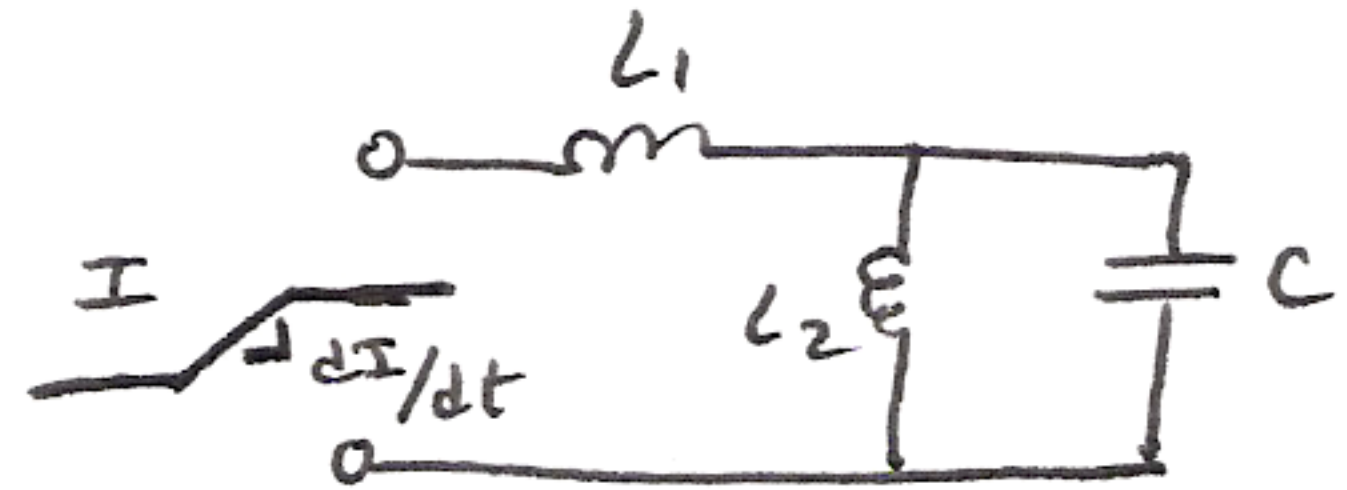
(a) Peak Voltage = $V \frac{L_2}{L_1 + L_2}$ (voltage divider)

L_1 & L_2 virtually in parallel, then $L_{eq} = \frac{L_1 L_2}{L_1 + L_2}$

$$\omega_0 = \frac{1}{\sqrt{L_{eq} C}} = \sqrt{\frac{L_1 + L_2}{L_1 L_2 C}}$$

$$V_c(t) = \frac{L_2}{L_1 + L_2} V (1 - \cos \omega_0 t)$$

(b) $V_c = L_2 \frac{dI_2}{dt} = L_2 I_2'$



$I_2 = I \frac{L_1}{L_1 + L_2}$ (current divider)

$$V_c = L_2 \frac{dI}{dt} \frac{L_1}{L_1 + L_2} = \frac{L_1 L_2}{L_1 + L_2} I'$$

$$\omega_0 = \frac{1}{\sqrt{L_{eq} C}} = \sqrt{\frac{L_1 + L_2}{L_1 L_2 C}}$$

$$V_c(t) = \frac{L_1 L_2}{L_1 + L_2} I' (1 - \cos \omega_0 t)$$