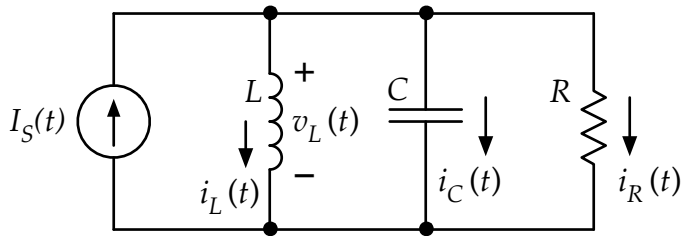


In the parallel  $RLC$  circuit shown below, the current through the inductor is known to be

$i_L(t) = I_m \cos(\omega t)$ , where  $I_m$  is the amplitude of the sinusoid, and  $\omega$  is the angular frequency.

Determine expressions for  $i_R(t)$  and  $i_C(t)$ .



$$i_R(t) = \underline{\hspace{15cm}}$$

$$i_C(t) = \underline{\hspace{15cm}}$$

Hint: Determine the expression for the voltage across the inductor. Use the inductor voltage expression to help find the resistor and capacitor voltages.