

# PROBLEM 1

PROBLEM 1: A circuit with a voltage source  $v_s(t) = 10 \cos(1000t)$  V and a current source  $i_s(t) = 2 \cos(1000t)$  A is shown in the figure below. The circuit consists of a  $10 \text{ mH}$  inductor, a  $10 \text{ nF}$  capacitor, and a  $10 \text{ k}\Omega$  resistor. The voltage across the inductor is  $v_L(t)$  and the current through the capacitor is  $i_C(t)$ .

