

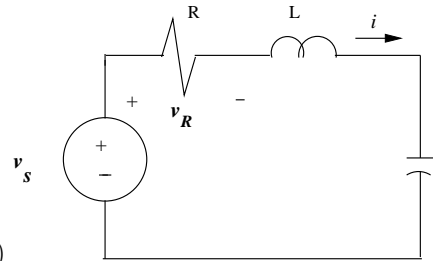
EE 212: Exam 2, March 9, 2016

Name: _____

Closed book. No cheat-sheet allowed. Show all work. Partial credit will be given.
No credit will be given if an answer appears with no supporting work.

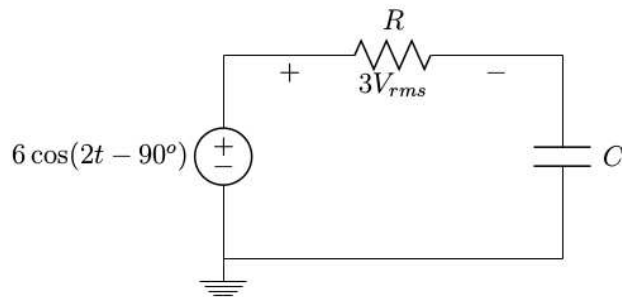
1. For the RLC circuit shown in the figure below,
 $v_s(t) = 5 \cos 2t$, $R = 5\Omega$, $L = 1$ H, and $C = \frac{1}{8}$ F.

(a) Find $v_R(t)$



(b) Determine by how much $v_R(t)$ either leads or lags $v_s(t)$

2. For the circuit shown in the figure below,

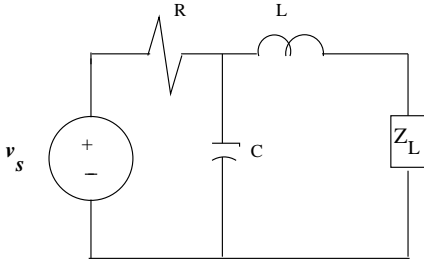


If the resistor R absorbs 9 W,

- (a) Find R
(b) Find C

3. For the circuit shown in the figure below, $v_s(t) = 4 \cos(4t - 60^\circ)$, $R = 8\Omega$, $C = \frac{1}{16}$ F, and $L = 2$ H.

- (a) Determine the load Z_L which absorbs maximum power
- (b) Find this power



4. A load, which operates at 440 V rms, draws 5 A rms at a leading pf of 0.95. Determine:

- (a) the complex power absorbed by the load
- (b) the impedance of the load