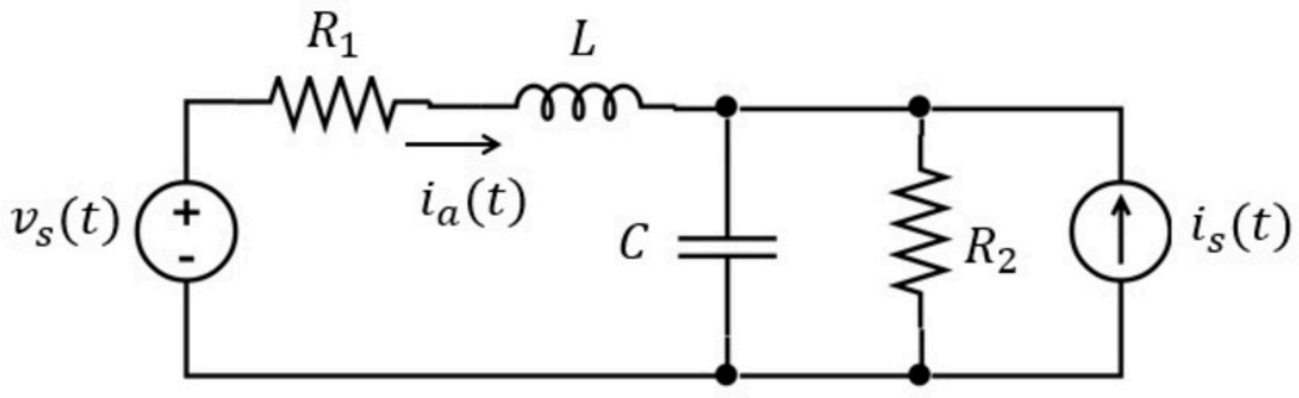
Phasors 010

Problem has been graded.

$v_s(t) = A_1 \cdot \cos(100t)$ and $i_s(t) = A_2$

Find $i_a(t) = A_3\sqrt{2} \cdot \cos(100t + B_3) + A_4$

with $-180° < B_3 \leq 180°$



Given Variables:

A1 : 100 V
A2 : 6 A
C : 0.1 mF
L : 1.5 H
R1 : 50 ohm
R2 : 100 ohm

Calculate the following:

A3 (A) :

0.5 ✓

B3 (degrees) :

-45 ✓

A4 (A) :

-4 ✓

Hint: Use superposition