ECE 35, Winter 2019

Quiz 3

/ 12

Last name

First + middle name(s)

PID

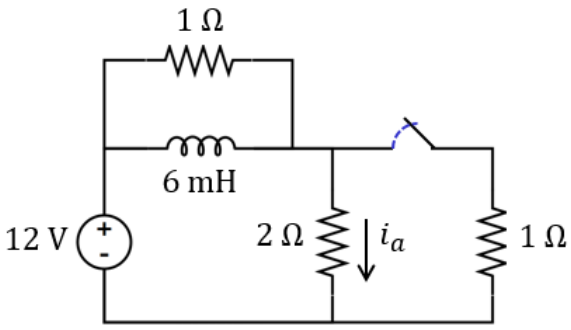
Instructions:

- Read each problem completely and thoroughly before beginning
- All calculations need to be done on these sheets
- Write your answers in the answer boxes for each question. Make sure you list units!
- Answers without supporting calculations will receive zero credit

(1) For $t < 2$ s, the switch is closed, and you may assume the system has reached steady state. The switch opens at time $t = 2$ s.

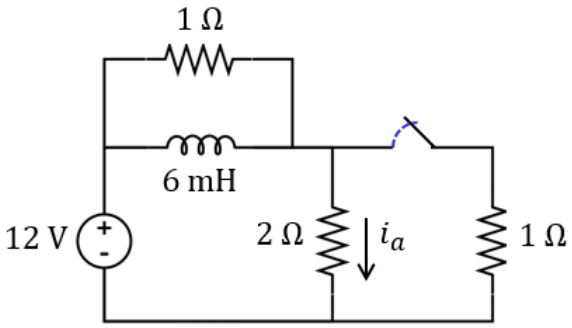
(a) Find $i_a(2^- \text{ s})$. *(1 point)*

$i_a(2^- \text{ s})$



(b) Find $i_a(t)$ for $t > 2$ s.
Write the equation.
(6 points)

$i_a(t)$



(2) For $t < 3$ s, the switch is open. The switch closes at time t = **3 s**. The switch opens again at time t = 5 s.
At $t = 0$, the capacitor is charged to **1 V**.

(a) Find $v_a(2\text{ s})$. *(2 points)*

(b) Find $v_a(3^+\text{ s})$. *(1 point)*

(c) Find $v_a(\infty)$. *(2 points)*

$v_a(2\text{ s})$ ☐

$v_a(3^+\text{ s})$ ☐

$v_a(\infty)$ ☐