

ECE 35, Fall 2018

Quiz 1

/ 20

Last name

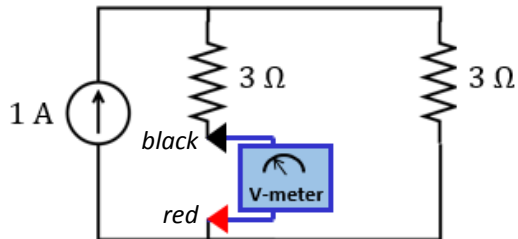
First + middle  
name(s)

PID

**Instructions:**

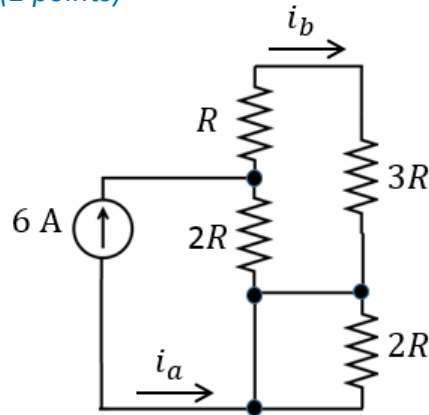
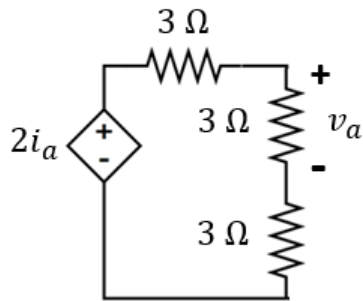
- Read each problem completely and thoroughly before beginning
- All calculations need to be done on these sheets
- Write your answers in the answer boxes for each question. Make sure you list units!
- Answers without supporting calculations will receive zero credit

(1) What is the reading of the volt meter? (2 points)



(2) (a) Find  $v_a$  and  $i_b$ . (2 + 2 points)

(b) Find the value of  $R$  such that the power supplied by the current source is 12 W. (2 points)

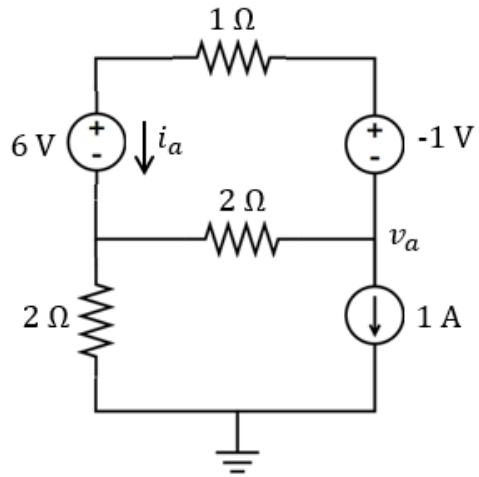


$v_a$

$i_b$

$R$

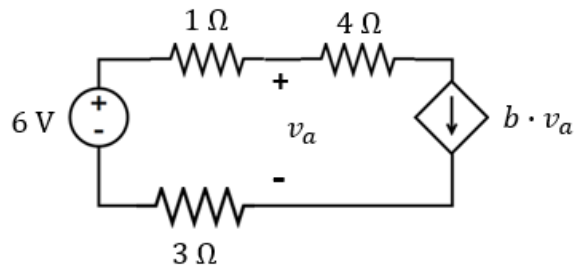
(3) Find  $i_a$  and node voltage  $v_a$ . (6 points)



$i_a$

$v_a$

- (4) (a) Assume  $b = 0.5 \text{ A/V}$ . Find  $v_a$  and the power received by the dependent source. (2 + 2 points)



$i_a$

Power  
received

- (b) Find the two (finite) values of  $b$  that make the power received by the dependent source be equal to 0. (2 points)

$b$