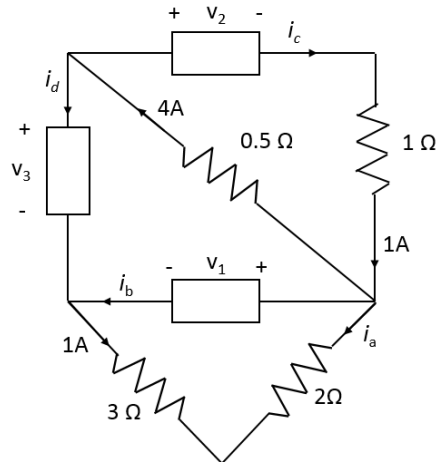


## Homework 3

## Problem 1 (7 pt)

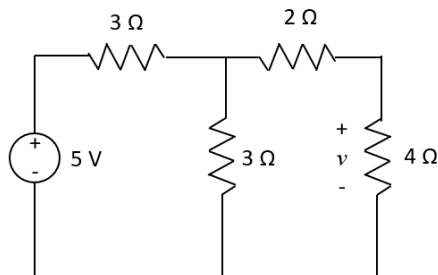
In the circuit below, you are given numerical values for some of the branch voltages and branch currents. (The box indicates an unknown active device). Use KCL and KVL to find the missing branch voltages ( $v_1$ ,  $v_2$ ,  $v_3$ ) and currents ( $i_a$ ,  $i_b$ ,  $i_c$ ,  $i_d$ ). Please show your detailed work.



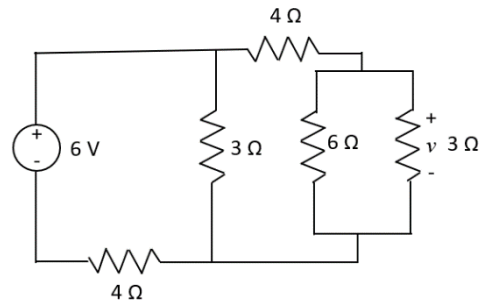
## Problem 2 (6 pt)

In the following circuits, use the concepts of voltage divider and equivalent resistance to determine the branch voltage  $v$  in each case. Please show your detailed work.

(a) (3 pt)



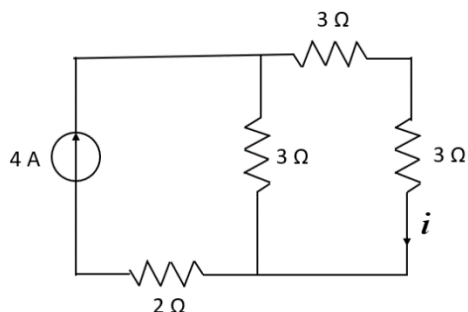
(b) (3 pt)



## Problem 3 (7 pt)

In the following circuits, use the concepts of current divider and equivalent resistance to determine the branch current  $i$  in each case. Please show your detailed work.

(a) (3 pt)



(b) (4 pt)

