

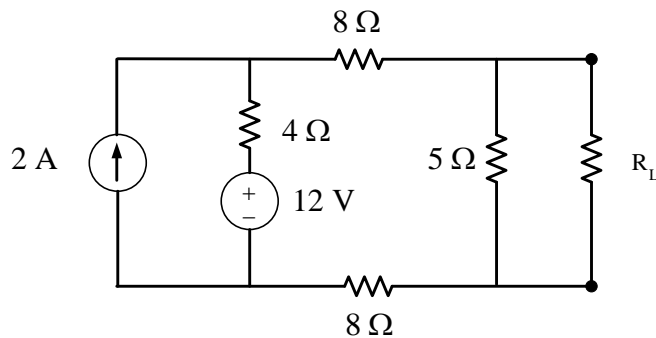


**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS**  
**ELECTRICAL ENGINEERING DEPARTMENT**  
**EE202 - Electric Circuits**

**HW #04**

**Due (November 17<sup>th</sup>, 2012)**

**Problem 1**

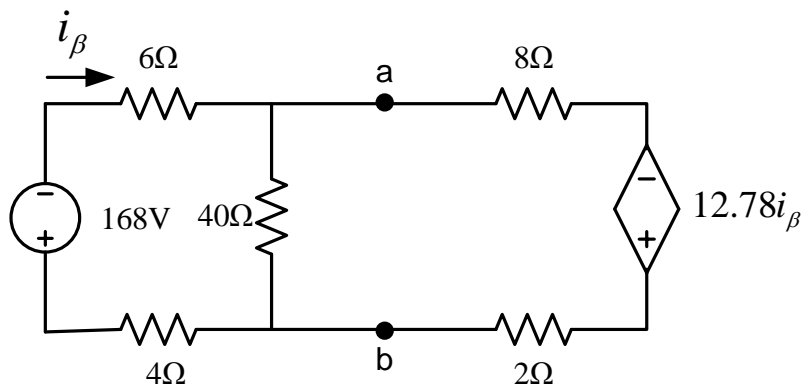


For the circuit shown above find the maximum power absorb by the load resistor  $R_L$  ?

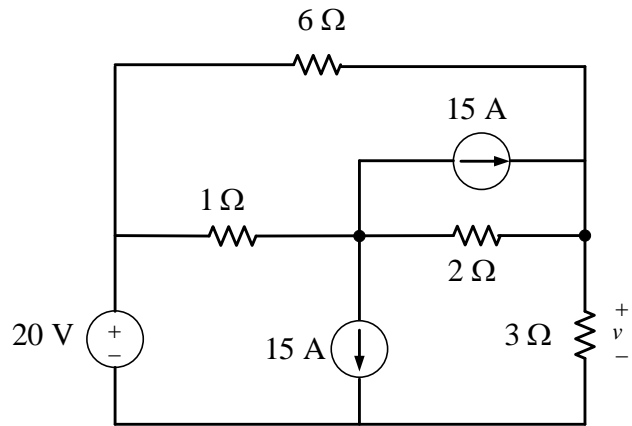
**Problem 2**

A variable resistor  $R_L$  is to be connected to terminals  $a$  and  $b$  in the circuit show. The resistor is adjusted for maximum power transfer.

- a) Find the numerical value of  $R_L$ .
- b) Find the maximum power transferred to  $R_L$ .

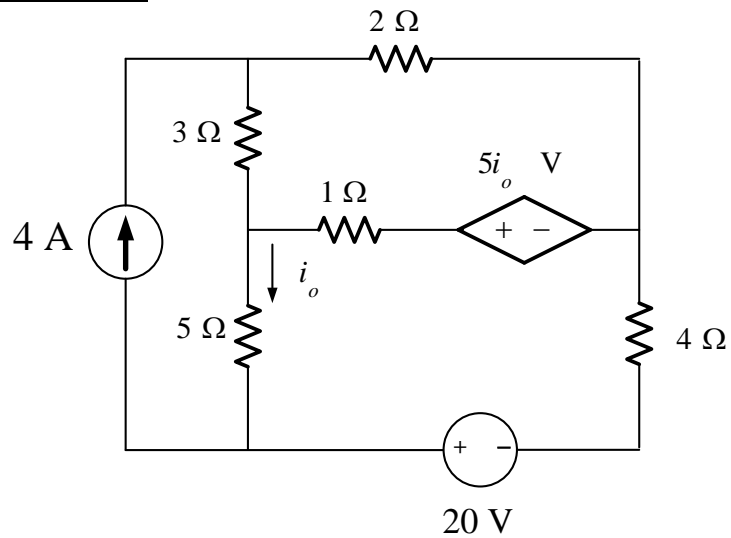


### Problem 3



Using the superposition principle, find the voltage across the 3 Ω resistor  $v$  ?

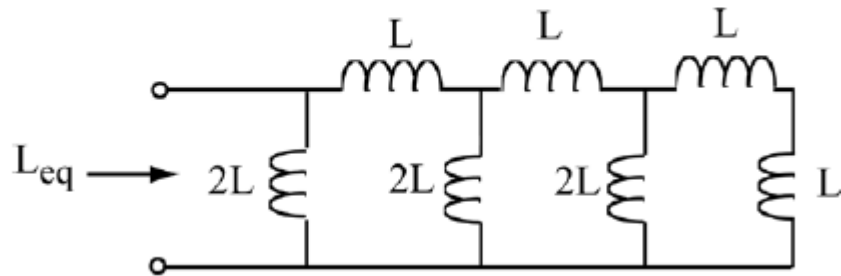
### Problem 4



Using the superposition principle, find the current  $i_o$  ?

### Problem 5

Determine the equivalent inductance  $L_{eq}$ .



### Problem 6

Determine the equivalent capacitance  $C_{eq}$ .

