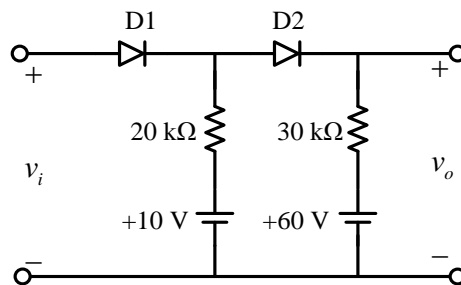
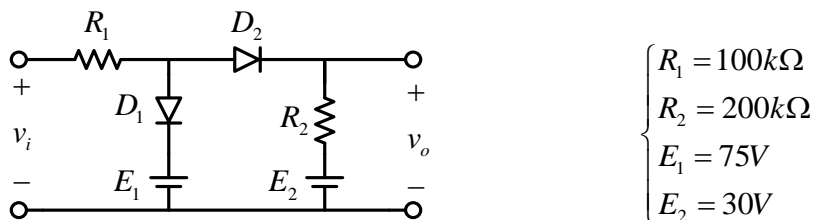


Electronics 1, Assignment #3, Analysis of diode circuits.

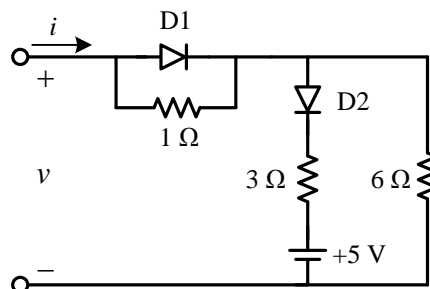
1. Suppose the diodes are ideal ones in the following circuit.
  - a) Determine the transfer function  $V_o/V_i$ .
  - b) Draw the input-output characteristic of the circuit.
  - c) Specify the status of the diodes (On or off) in each region.



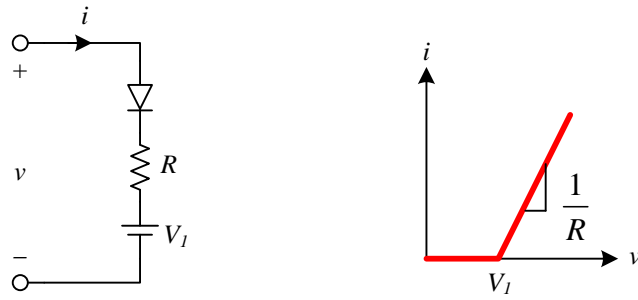
2. In the following circuit, derive a relation between the input and the output voltage. Plot the output voltage as a function of the input voltage.



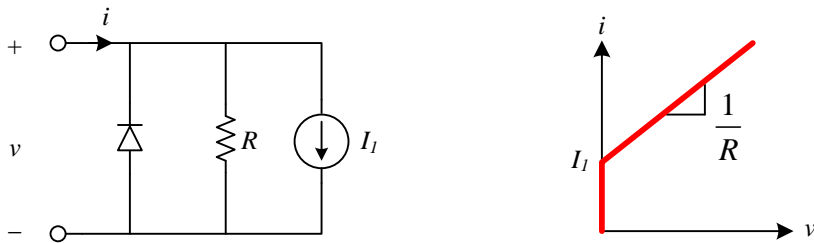
3. In the following circuit the diodes are supposed to be ideal ones. Sketch  $i$ - $v$  characteristic.



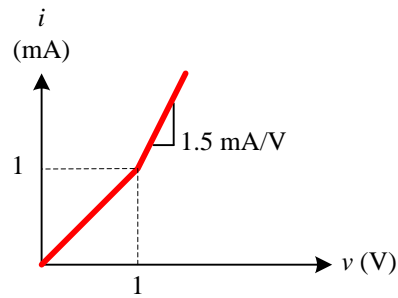
4. Prove that the I-V characteristic of the circuit shown below is according to the following figure.



5. Prove that the I-V characteristic of the circuit shown below is similar to the following figure.



6. Design a circuit which provides the following I-V characteristic.  
(Hint: You can use the circuits provided in problems 9 and 10)



Good Luck- M.R. Ashraf