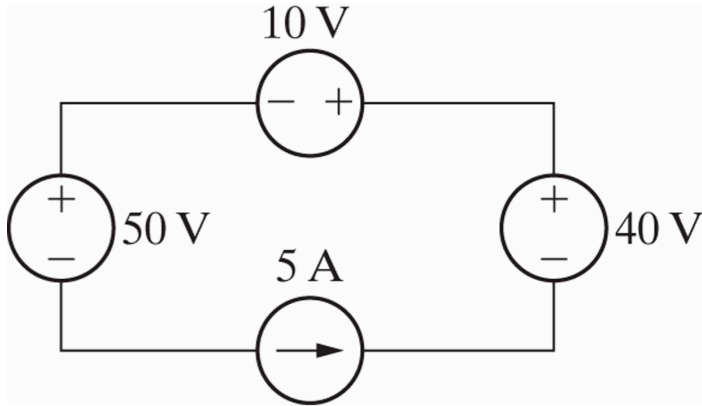


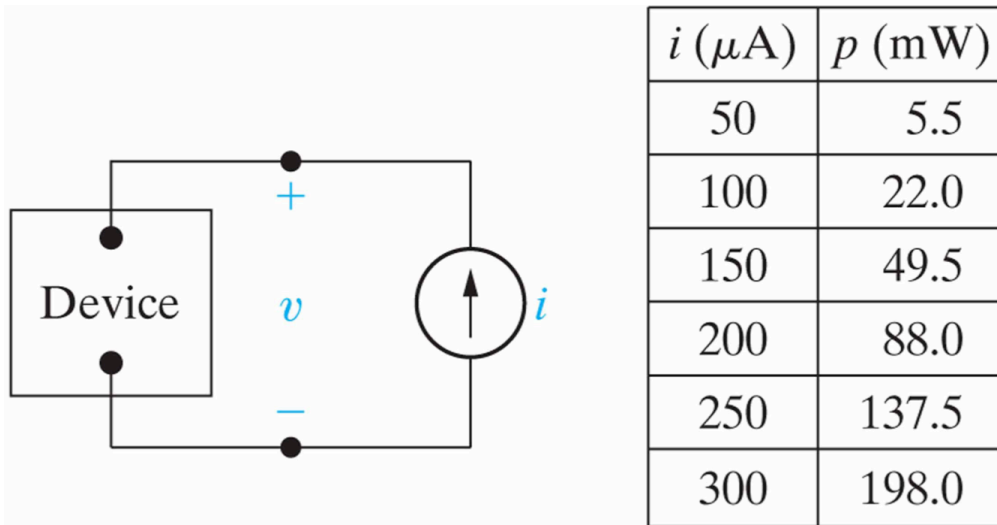
# Problem # 1

If the interconnection in the Figure is valid, find the total power developed in the circuit. If the interconnection is not valid, explain why.



## Problem #2

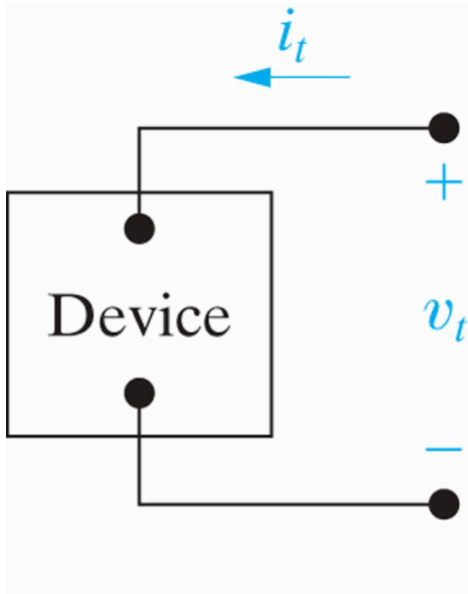
A variety of current source values were applied to the device shown in the Figure. The power absorbed by the device for each value of current is recorded in the Table. Use the values in the table to construct a circuit model for the device consisting of a single element.



## Problem #3

The voltage and current were measured at the terminals of the device shown in the Figure. The results are shown in the Table.

- Construct a circuit model for this device using an ideal current source and a resistor.
- Use the model to predict the amount of power the device will deliver to a  $20\Omega$  resistor.

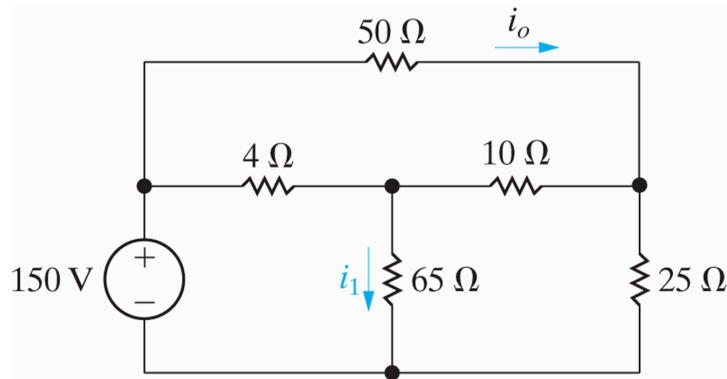


$v_t$ (V)	$i_t$ (A)
100	0
120	4
140	8
160	12
180	16

## Problem #4

The current  $i_o$  in the following circuit is 1 A.

- Find the power dissipated in each resistor.
- Verify that the total power dissipated in the circuit equals the power developed by the 150 V source.



## Problem #5

Find (a)  $i_o$ , (b)  $i_1$  and (c)  $i_2$  in the following circuit.

