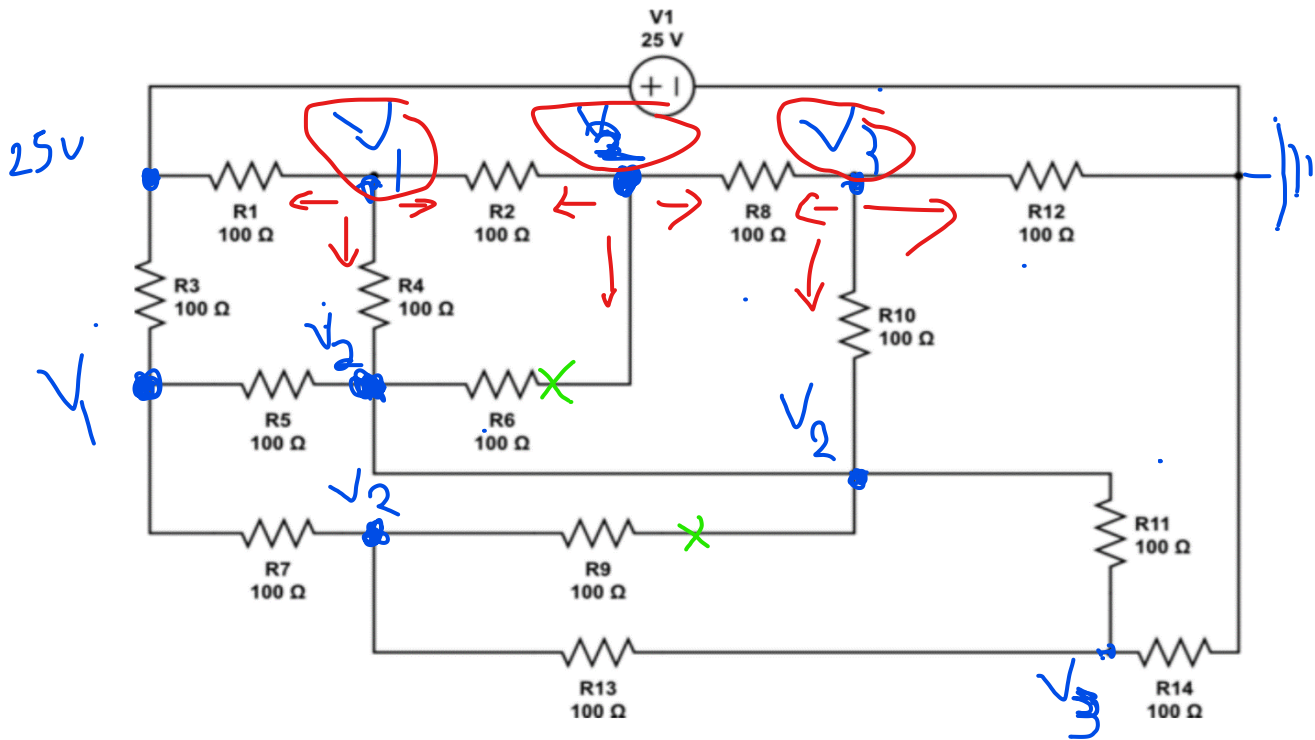




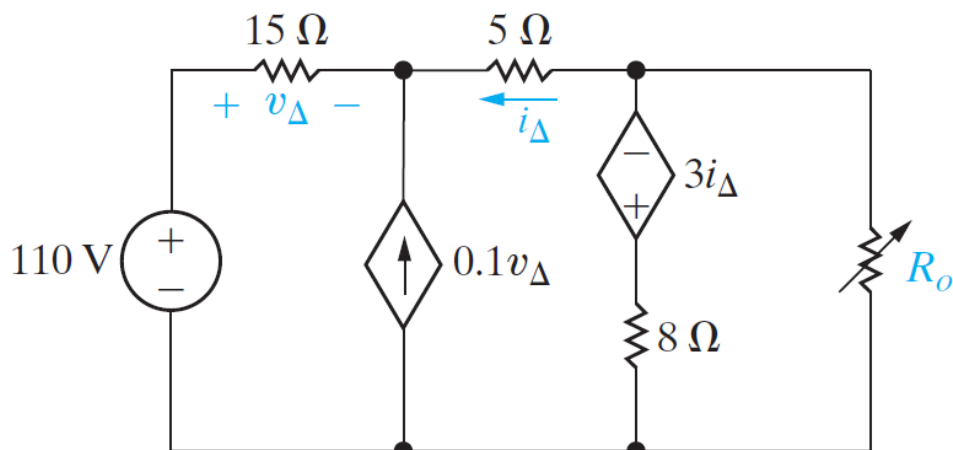
## Handwritten Assignments 1

1- Using Nodal Analysis, calculate the current through each resistor and the voltage across each resistor.



2- The variable resistor  $R_o$  in the following circuit is adjusted until it absorbs maximum power from the circuit.

- Find the Thevenin and Norton equivalents with respect to the terminals a,b
- Find the value of  $R_o$ .
- Find the maximum power.



3- A resistive touch screen has 5 V applied to the grid in the x-direction and in the y-direction. The screen has 480 pixels in the x-direction and 800 pixels in the y-direction. When the screen is touched, the voltage in the x-grid is 1 V and the voltage in the y-grid is 3.75 V.)

- a) Calculate the values of  $\alpha$  and  $\beta$ .
- b) Calculate the x- and y-coordinates of the pixel at the point where the screen was touched.