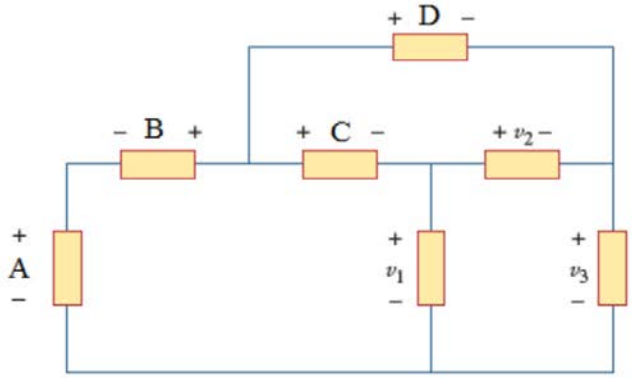
EE101_Quiz 2 January 22, 2018 Solution

NAME_____ ID_____

In the circuit below, voltages are specified to be

(6 points) A = 75 V, B = 25 V, C= 30 V, D = 40 V.



The unknown voltages v_1, v_2, and v_3 are [ ] V, [ ] V, and [ ] V, respectively.

(ans) V1= 25+75-30=70V, v2=40-30=10V, v3=v1-v2=70-10=60V

(4 points) If the voltage D is across a 20 Ω resistor and v2 is across a 10 Ω resistor, what is the power consumed in the element with v3 across it.

P= _____180_____ W

P= v3 x i3= 60V x i3

Where i3 = iD + iv2= 40/20 + 10/10 = 3A

Thus P = 60V x 3A=180 W (ans)