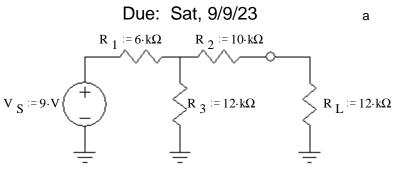
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Thevenin & Norton equivalent circuits

1. a) For the circuit shown, find and draw the Thevenin equivalent circuit. The load resistor is $\rm R_{\rm L}.$

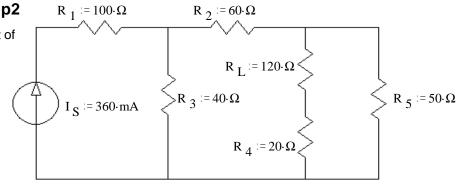


b) Find the voltage across R_L (V_L) and the current through R_L (I_L) using your Thevenin equivalent circuit.

c) Find and draw the Norton equivalent circuit.

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2. a) Find and draw the Thévenin equivalent of the circuit shown. The load resistor is R_L .



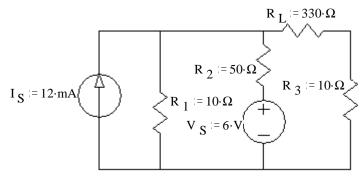
b) Find and draw the Norton equivalent of the same circuit.

c) Find voltage across the load (V_{RL}).

d) Choose a value of load resistor (R_L) to maximize the power dissipation in the load and find that power.

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3. a) The load resistor is R_L , and is in a strange place in this circuit. Hint: use superposition to find $V_{Th}.$ 2nd hint: Nodal analysis is even easier.



b) Find and draw the Norton equivalent circuit.

c) Find \boldsymbol{V}_L and \boldsymbol{I}_L using your Norton equivalent circuit.

Answers1. a) 6·V, 14·kΩ2. a) 4.8·V, 53.33·Ωb) 90·mA, 53.33·Ωc) 3.32·Vd) 53.33·Ωd) 53.33·Ωb) 60·mA, 18.3·Ωc) 3.16·mA, 1.042·VECE 2210 / 00 homework DC5 p3