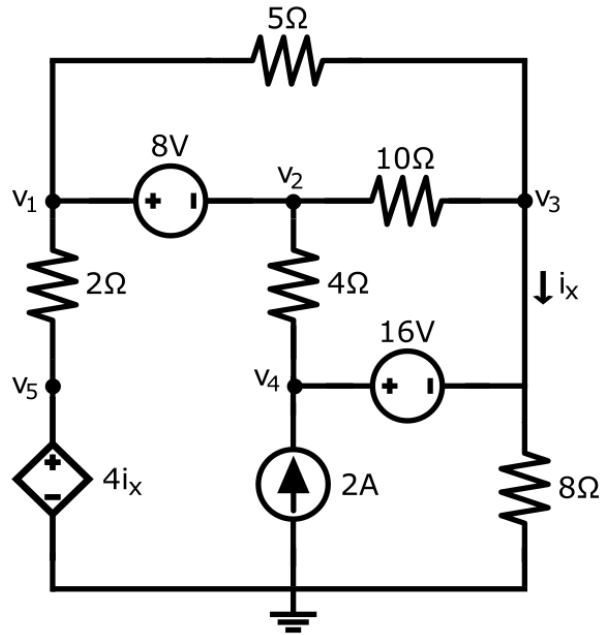# EEE 31 Problem Set 1 Deadline: April 2, 2018 (12NN)
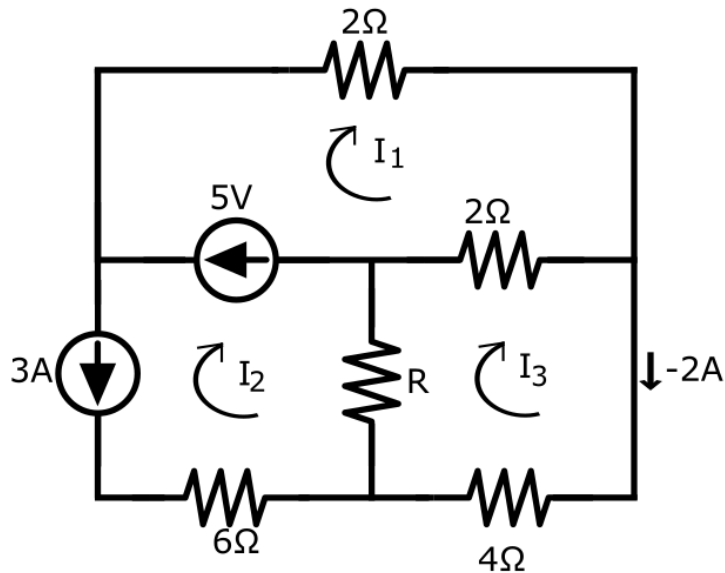
Problem 1 (15 pts)

Determine the value of the node voltages v_1, v_2, v_3, v_4 and v_5. What is the power generated/absorbed by each independent source?
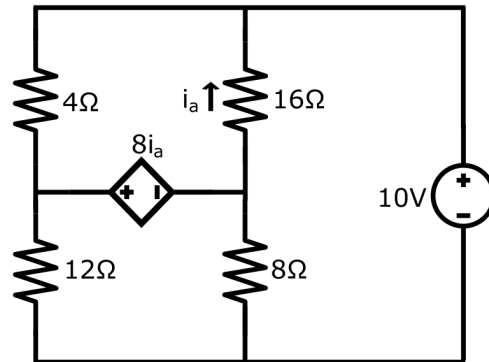

Problem 2 (10 pts)

Given the mesh currents I_1, I_2 and I_3, determine the value of the resistance R. Determine the voltage, current and power for each element in the circuit.

Problem 3 (20 pts)

Using both mesh current and node voltage analysis, determine the power supplied by the dependent source.

Problem 4 (15 pts)

The mesh currents in the circuit shown are

I_1 = -1.375 A I_2 = -2.5 A I_3 = -3.25 A

Determine the values of the gains X and Y of the dependent sources shown.