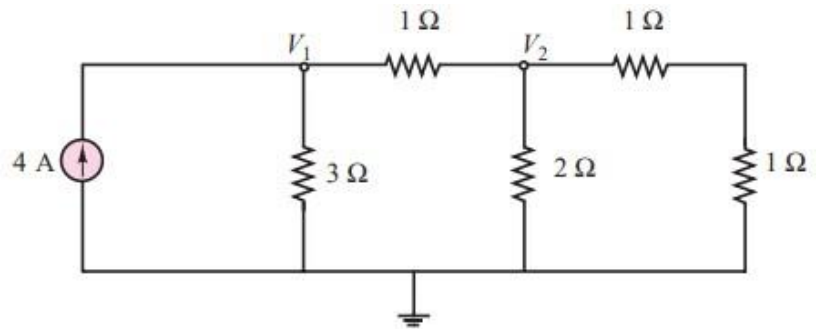
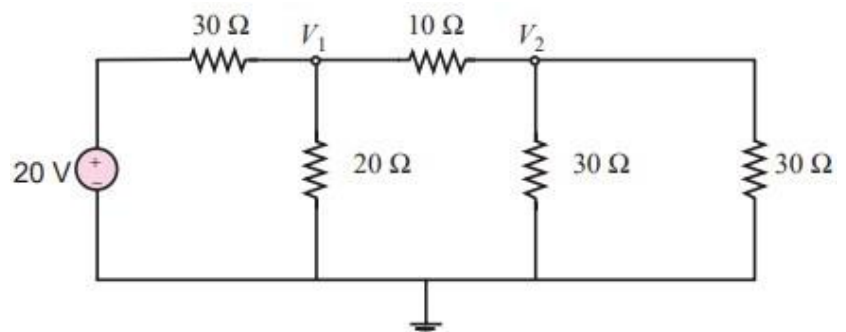


1. Problem # 3.1

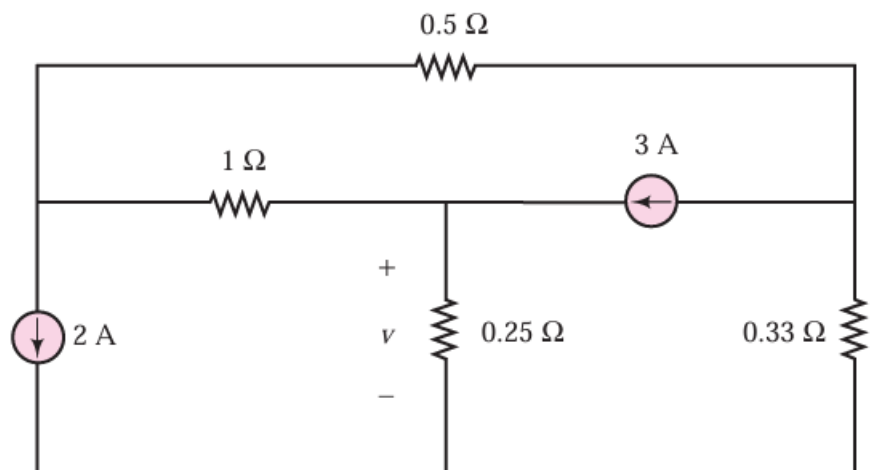
Use node voltage analysis to find the voltages V_1 and V_2 for the circuit of Figure P3.1.

**2. Problem # 3.2**

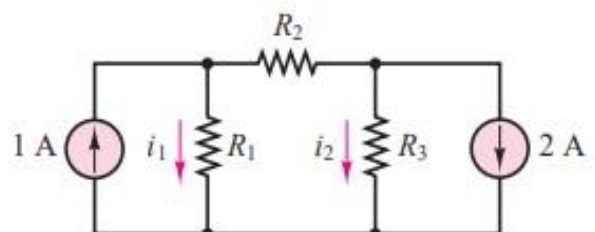
Using node voltage analysis, find the voltages V_1 and V_2 for the circuit of Figure P3.2.

**3. Problem # 3.3**

Using node voltage analysis in the circuit of Figure P3.3, find the voltage v across the $0.25\text{-}\Omega$ resistance.

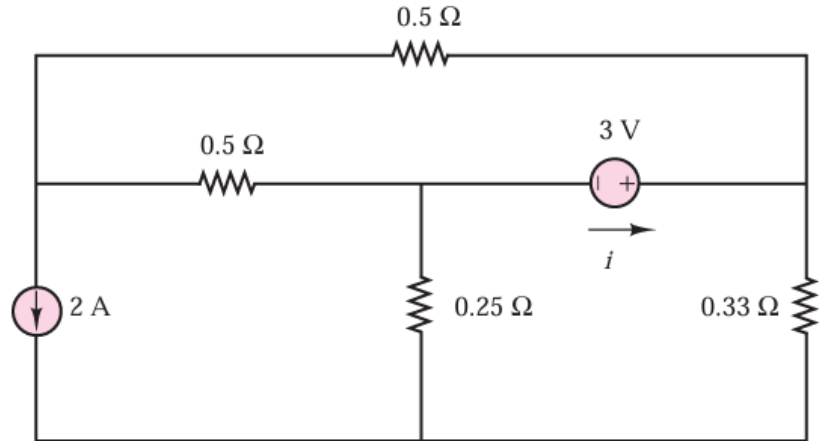
**4. Problem # 3.7**

Given $R_1 = 3\ \Omega$; $R_2 = 1\ \Omega$; $R_3 = 6\ \Omega$, use node voltage analysis in the circuit of Figure P3.7 to find the currents i_1 and i_2 .



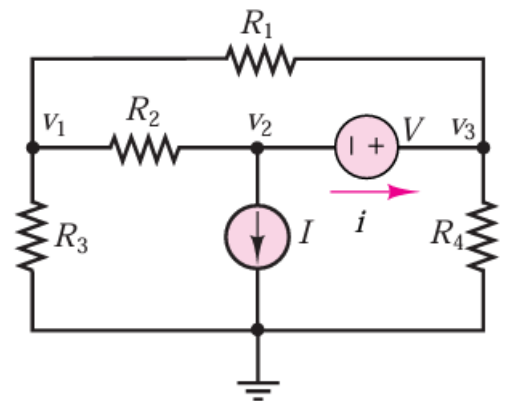
5. Problem # 3.4

Using node voltage analysis in the circuit of Figure P3.4, find the current i through the voltage source.



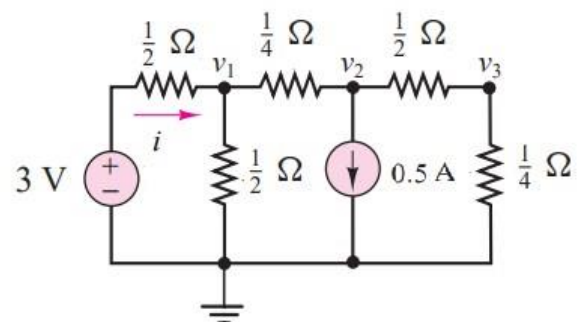
6. Problem # 3.9

Using node voltage analysis in the circuit of Figure P3.9, find the current i through the voltage source. Let $R_1 = 100 \Omega$; $R_2 = 5 \Omega$; $R_3 = 200 \Omega$; $R_4 = 50 \Omega$; $V = 50\text{V}$; $I = 0.2\text{A}$.



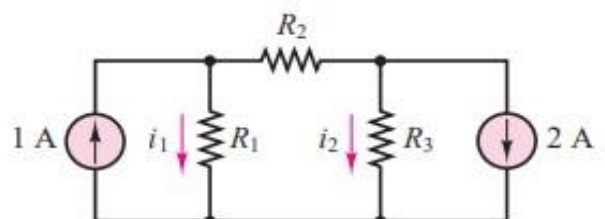
7. Problem # 3.11

Using node voltage analysis in the circuit of Figure P3.11, find the current i drawn from the voltage source.



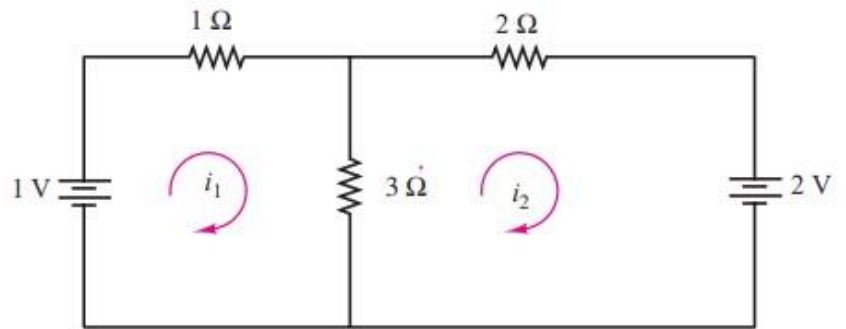
8. Problem # 3.8

Use the mesh analysis to determine the currents i_1 and i_2 in the circuit of Figure P3.7.



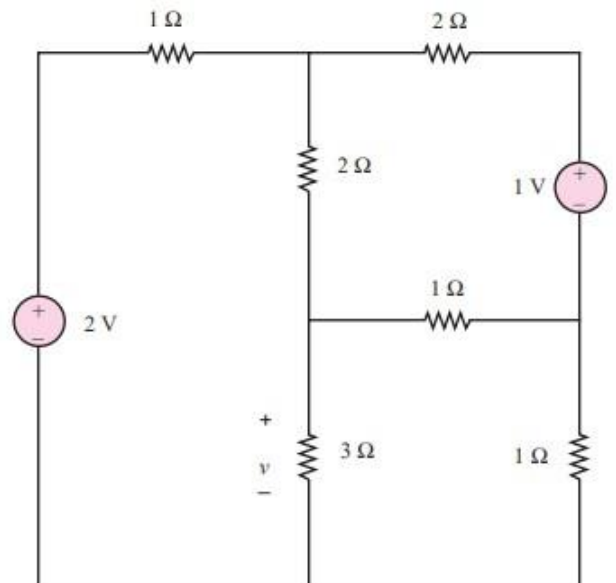
9. Problem # 3.14

Using mesh current analysis, find the currents i_1 and i_2 for the circuit of Figure P3.14.



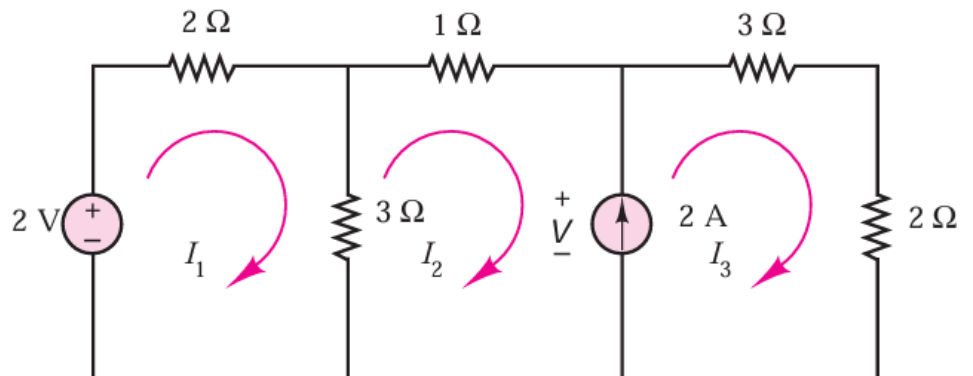
10. Problem # 3.16

Using mesh current analysis, find the voltage, v , across the 3-Ω resistor in the circuit of Figure P3.16.



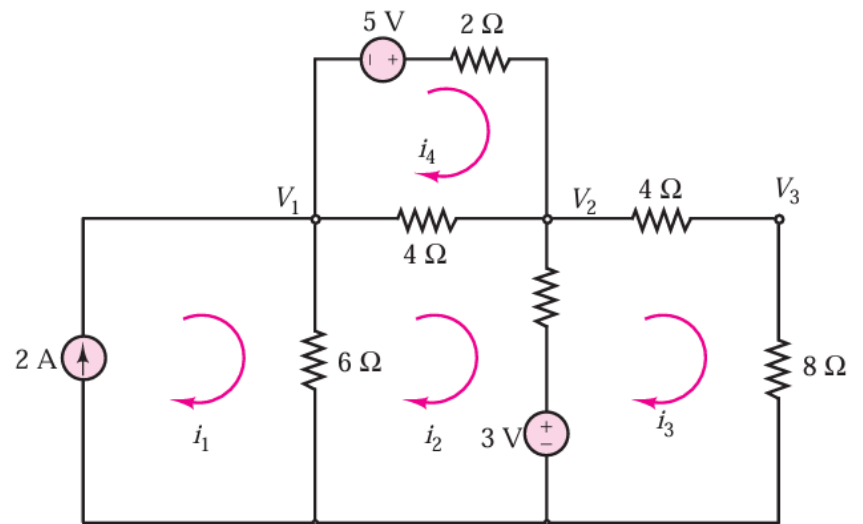
11. Problem # 3.17

Using mesh current analysis, find the currents I_1 , I_2 , and I_3 in the circuit of Figure P3.17.



12. Problem # 3.20

For the circuit of Figure P3.20, use mesh current analysis to find the mesh currents.



13. Problem # 3.28

Using mesh analysis in the circuit of Figure P3.9, find the current i through the voltage source. Let $R_1 = 100 \Omega$; $R_2 = 5 \Omega$; $R_3 = 200 \Omega$; $R_4 = 50 \Omega$; $V = 50\text{V}$; $I = 0.2\text{A}$.

