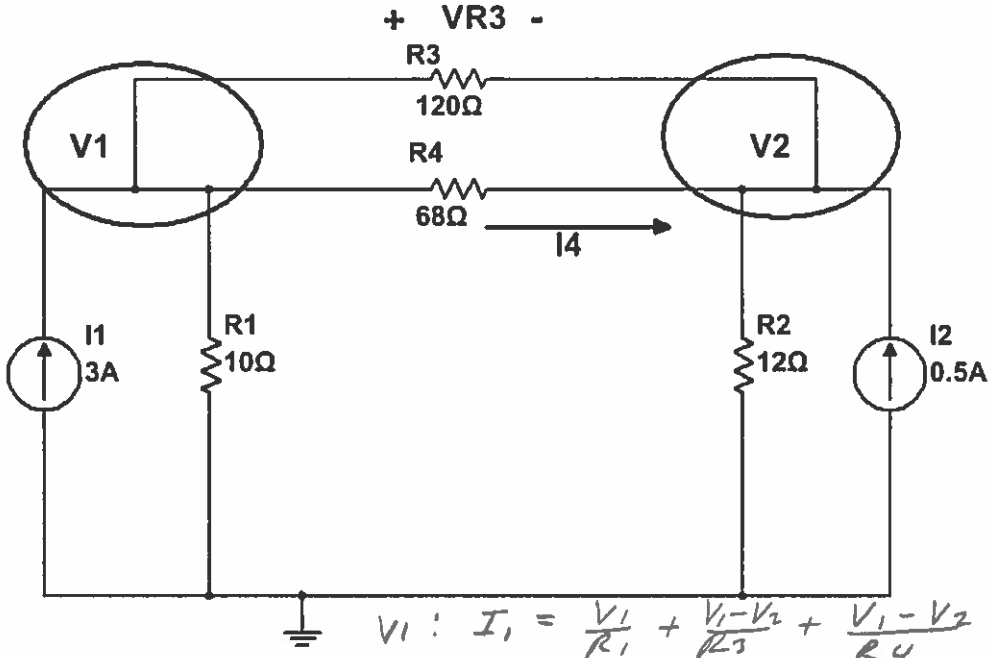

1. Find the node voltages V_1 and V_2

$V_1 = 26.3V$

$V_2 = 10.4V$

SOLVING YIELDS

V_1: $I_1 = \frac{V_1}{R_1} + \frac{V_1 - V_2}{R_3} + \frac{V_1 - V_2}{R_4}$

$3 = V_1\left(\frac{1}{10} + \frac{1}{120} + \frac{1}{68}\right) - V_2\left(\frac{1}{120} + \frac{1}{68}\right)$

$0.123\,V_1 - 0.023\,V_2 = 3 \quad (1)$

V_2: $I_2 = \frac{V_2}{R_2} + \frac{V_2 - V_1}{R_3} + \frac{V_2 - V_1}{R_4}$

$0.5 = -V_1\left(\frac{1}{120} + \frac{1}{68}\right) + V_2\left(\frac{1}{12} + \frac{1}{120} + \frac{1}{68}\right)$

$-0.023\,V_1 + 0.106\,V_2 = 0.5 \quad (2)$

2. Find V_{R3} (polarity as shown)

$V_{R3} = V_1 - V_2 = 15.9V$

3. Find I_4 (direction as shown)

$I_4 = \frac{V_1 - V_2}{R_4} = \frac{26.3V - 10.4V}{68\Omega} = 234\,mA$

Problems 4 & 5 on the back →

4. Find the power *delivered* by source I1

$$P_{I_1} = (I_1)(V_1) = (3A)(26.3V) = \boxed{78.9W}$$

5. Find the power absorbed by R_2

$$P_{R_2} = \frac{(V_2)^2}{R_2} = \frac{(10.4V)^2}{12\Omega} = \boxed{9.01W}$$