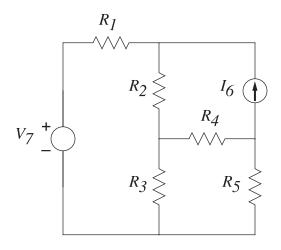
## Problem S3 (Signals and Systems)



1. For the circuit above, find the branch voltages and branch currents using the node method. The component values are:

$$R_1 = 3 \Omega$$
 $R_2 = 2 \Omega$ 
 $R_3 = 3 \Omega$ 
 $R_4 = 3 \Omega$ 
 $R_5 = 1 \Omega$ 
 $I_8 = 5 \Lambda$ 
 $V_7 = 3 V$ 

2. Verify that the net power dissipation of the circuit is zero, that is, that

$$\sum_{n=1}^{7} i_n v_n = 0 (1)$$