

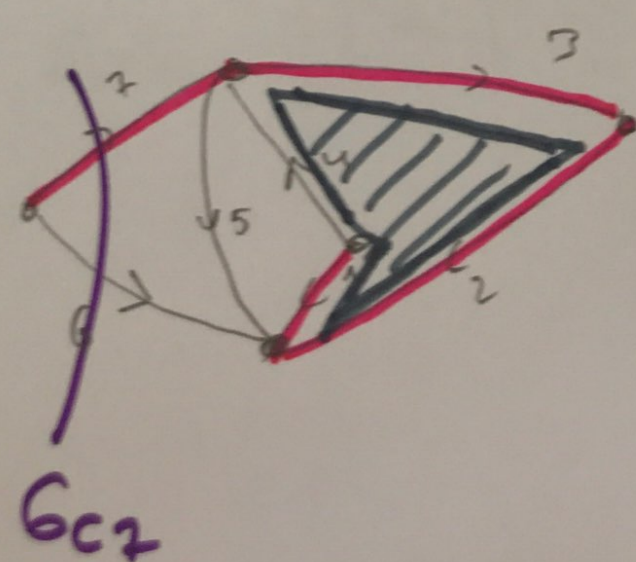
fund. cut-set eqns.

$$\left\{ \begin{array}{l} C_{C1} \rightarrow i_1 + i_4 = 0 \\ C_{C2} \rightarrow i_2 - i_4 + i_5 + i_6 = 0 \end{array} \right.$$

$$C_1 U_1 + C_u U_u = 0$$

$$C_2 U_2 - C_u U_u + i_5 + i_6 = 0$$

$$U_u = ?$$



$$U_4 + U_3 + U_2 - U_1 = 0$$

$$U_u = \underline{\underline{U_1 - U_2 - U_3}}$$

$$G_1 v_1 + G_4 (v_1 - v_2 - v_3) = 0$$

$$G_2 v_2 - G_4 (v_1 - v_2 - v_3) + i_5 + i_6 = 0$$

$$i_5 = ?$$

$$i_5 = i_7$$

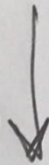


$$i_7 = ?$$

$G_4 \rightarrow$

$$i_7 + i_6 = 0$$

$$i_7 = -i_6$$



$$G_1 v_1 + G_4 (v_1 - v_2 - v_3) = 0$$

$$G_2 v_2 - G_4 (v_1 - v_2 - v_3) - i_6 + i_6 = 0$$

$$\begin{bmatrix} G_1 + G_4 & -G_4 \\ -G_4 & G_2 + G_4 \end{bmatrix} \begin{bmatrix} v_1 \\ v_2 \end{bmatrix} + \begin{bmatrix} -G_4 & 0 \\ G_4 & 0 \end{bmatrix} \begin{bmatrix} v_3 \\ v_4 \end{bmatrix} = 0$$