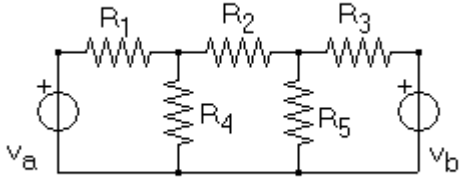
Esercizio 3.1)

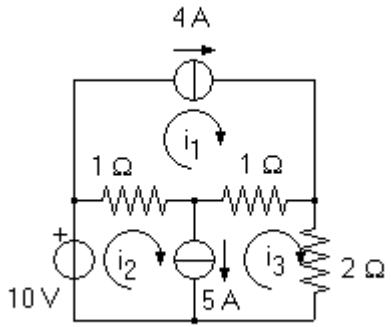
Usando il metodo alle maglie, scrivere la matrice dei coefficienti del sistema risolvente, per il circuito in figura.



$$\begin{bmatrix} R_1+R_4 & -R_4 & 0 \\ -R_4 & R_2+R_4+R_5 & -R_5 \\ 0 & -R_5 & R_3+R_5 \end{bmatrix}$$

Esercizio 3.2)

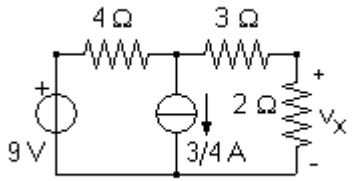
Determinare le tre correnti di maglia.



[$i_1 = 4$ A, $i_2 = 33/4$ A, $i_3 = 13/4$ A]

Esercizio 3.3)

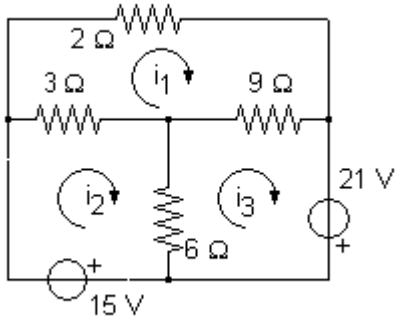
Usando il metodo alle maglie, determinare v_x.



[$v_x = 4/3$ V]

Esercizio 3.4)

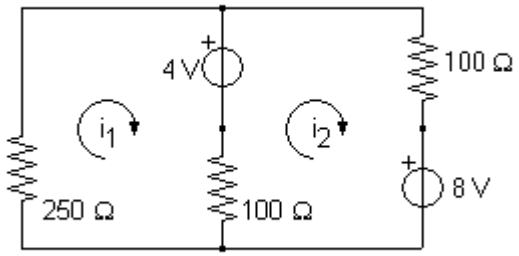
Determinare le tre correnti di maglia.



[$i_1 = 3$ A, $i_2 = 2$ A, $i_3 = 4$ A]

Esercizio 3.5)

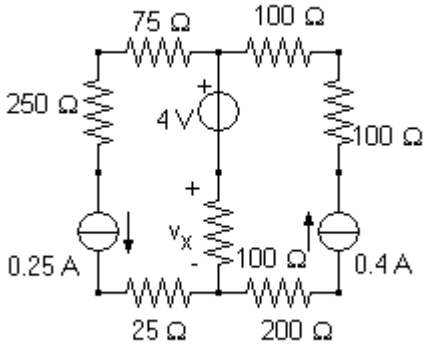
Determinare le due correnti di maglia.



[i_1 = -20 mA, i_2 = -30 mA]

Esercizio 3.6)

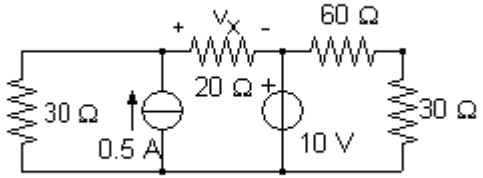
Usando il metodo alle maglie, determinare v_x.



[v_x = 15 V]

Esercizio 3.7)

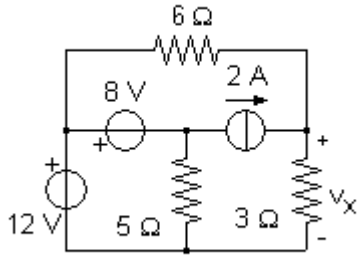
Usando il metodo alle maglie, determinare v_x.



[v_x = 2 V]

Esercizio 3.8)

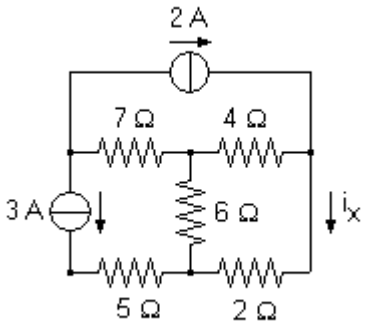
Usando il metodo alle maglie, determinare v_x.



[v_x = 8 V]

Esercizio 3.9)

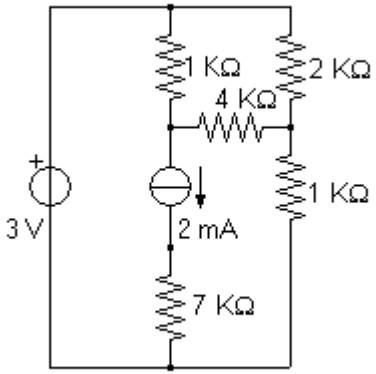
Usando il metodo alle maglie, determinare il valore della corrente i_x.



[i_x = -5/6 A]

Esercizio 3.10)

Usando il metodo alle maglie, determinare la potenza erogata dal generatore di tensione.



[p(t) = 9 mW]