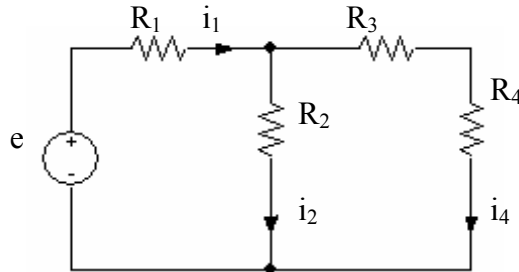


Esercitazione 1

Esercizio 1:

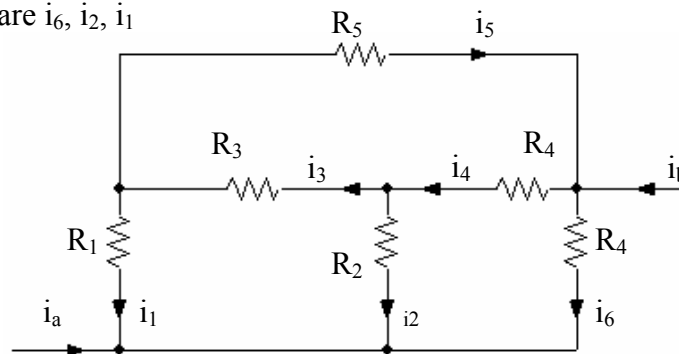
Calcolare i_4 note: $i_1=2A$, $i_2=0.7A$



Risposta: $i_4 = 1.3A$

Esercizio 2:

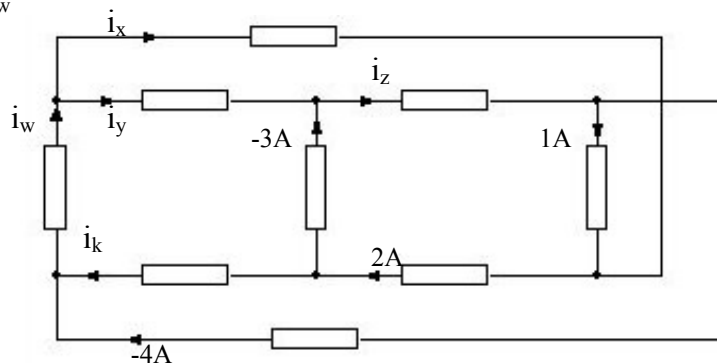
Note: i_a, i_3, i_4, i_5 calcolare i_6, i_2, i_1



Risposta: $i_b = -i_a$; $i_6 = -i_a + i_5 - i_4$; $i_1 = i_3 - i_5$; $i_2 = i_4 - i_3$

Esercizio 3:

Calcolare i_x, i_y, i_z, i_w

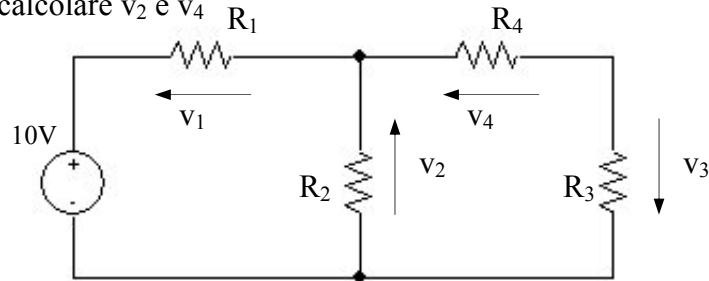


Risposta: $i_x = 1A$; $i_y = 0A$; $i_w = 1A$; $i_z = -3A$

Esercitazione 1

Esercizio 4:

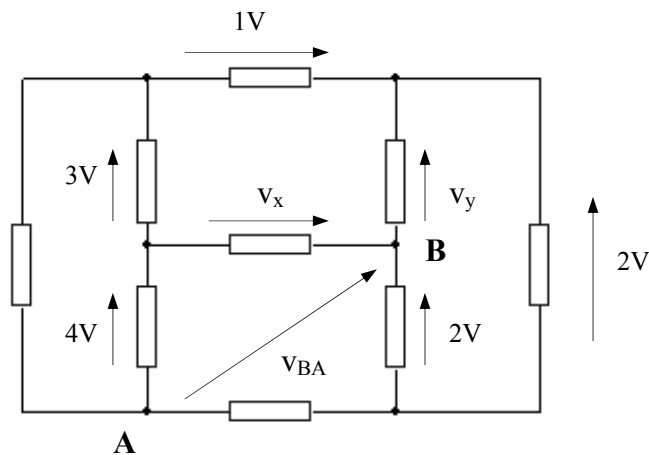
Note $v_1 = 1V$, $v_3 = 7V$, calcolare v_2 e v_4



Risposta: $v_2 = 9V$; $v_4 = 16V$

Esercizio 5:

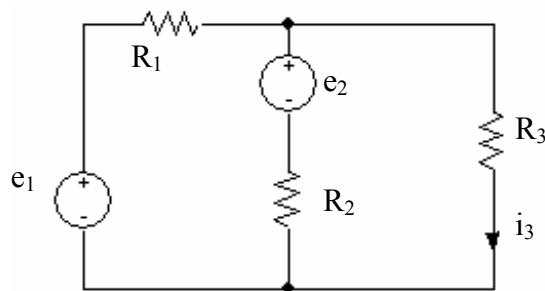
Calcolare v_x , v_y , v_{BA}



Risposta: $v_x = 4V$, $v_y = 0V$, $v_{BA} = 8V$

Esercizio 6:

Dati $R_1 = R_3 = 25\Omega$, $R_2 = 50\Omega$, $e_1 = 100V$, $e_2 = 200V$; calcolare i_3

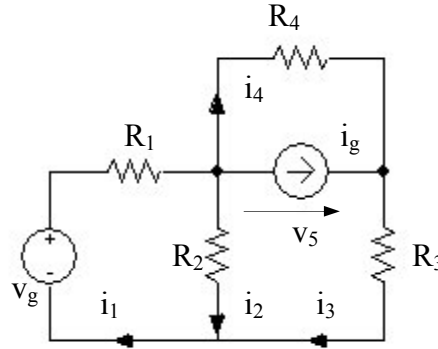


Risposta: $i_3 = 3.2A$

Esercitazione 1

Esercizio 7:

Calcolare i_1, i_2, i_3, i_4, v_5

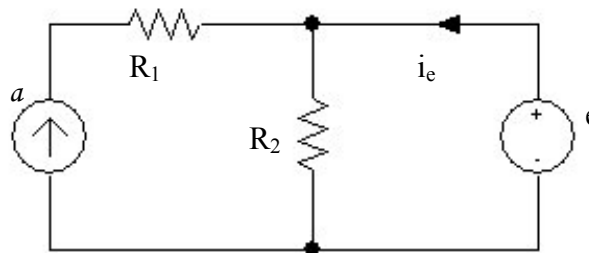


$R_1=25\Omega$
 $R_2=20\Omega$
 $R_3=10\Omega$
 $R_4=90\Omega$
 $i_g=10A$
 $v_g=200V$

Risposta $i_1 = 8,4A$; $i_2 = -0.5A$; $i_3 = 8.9A$; $i_4 = -1.1A$; $v_5 = -99V$

Esercizio 8:

Calcolare tutte le potenze sui bipoli e la corrente i_e

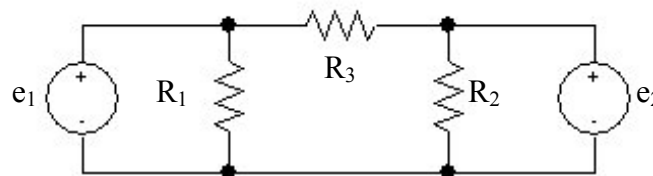


$R_1=2\Omega$
 $R_2=1\Omega$
 $a=3A$
 $e=4V$

Risposta: $P_1=18W$; $P_2=16W$; $P_e=4W$; $P_a=30W$; $i_e=1A$

Esercizio 9:

Calcolare le potenze erogate dai generatori e sulle resistenze



$e_1=20V$
 $e_2=10V$
 $R_1=10\Omega$
 $R_2=15\Omega$
 $R_3=5\Omega$

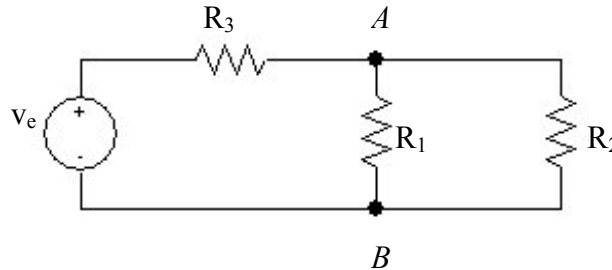
Risposta: $P_{e1}=80W$; $P_{e2}=-13.33W$; $P_{R1}=40W$; $P_{R2}=6.67W$; $P_{R3}=20W$



Esercitazione 1

Esercizio 10 :

Calcolare V_{AB} , R_1 , R_2

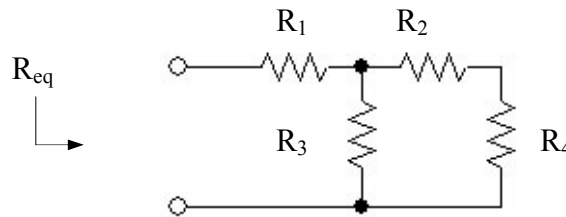


$$\begin{aligned} P_{R_1} &= 108\text{W} \\ P_{R_2} &= 54\text{W} \\ P_{R_3} &= 162\text{W} \\ R_3 &= 2\Omega \end{aligned}$$

Risposta: $V_{AB}=18\text{V}$; $R_1=3\Omega$; $R_2=6\Omega$

Esercizio 11:

Calcolare R_{eq}

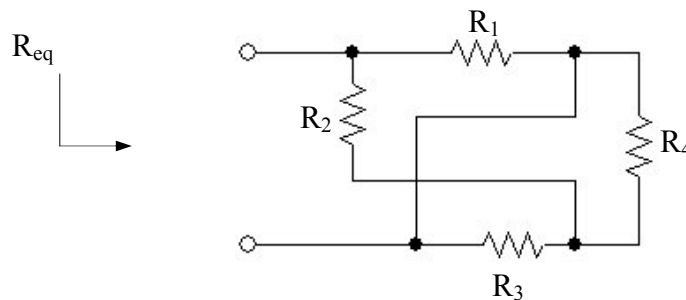


$$\begin{aligned} R_1 &= 5\Omega \\ R_2 &= 4\Omega \\ R_3 &= 3\Omega \\ R_4 &= 2\Omega \end{aligned}$$

Risposta $R_{eq}=7\Omega$

Esercizio 12:

Calcolare R_{eq}



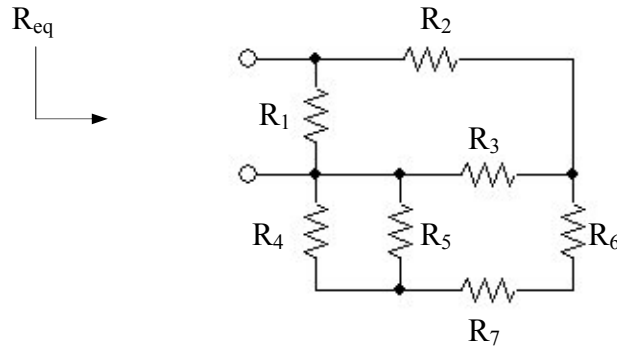
$$\begin{aligned} R_1 &= 10\Omega \\ R_2 &= 20\Omega \\ R_3 &= 40\Omega \\ R_4 &= 40\Omega \end{aligned}$$

Risposta: $R_{eq}=(R_4||R_3 + R_2)||R_1=8\Omega$

Esercitazione 1

Esercizio 13:

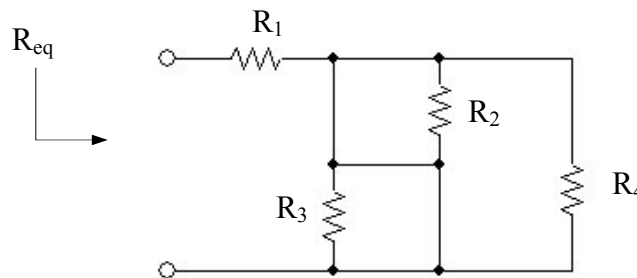
Calcolare R_{eq} noto $R_i = 1\text{K}\Omega \forall i$



Risposta: $R_{eq} = R_1 \parallel (R_2 + R_3 \parallel (R_4 \parallel R_5 + R_6 + R_7)) = \frac{12}{19} \text{K}\Omega \approx 0.63\text{K}\Omega$

Esercizio 14:

Calcolare R_{eq}

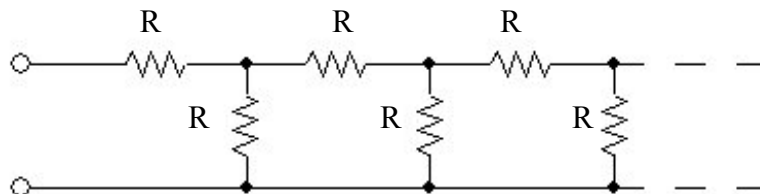


$R_1 = 15\Omega$
 $R_2 = 100\Omega$
 $R_3 = 100\Omega$
 $R_4 = 5\Omega$

Risposta: $R_{eq} = 15\Omega$

Esercizio 15:

Calcolare R_{eq}

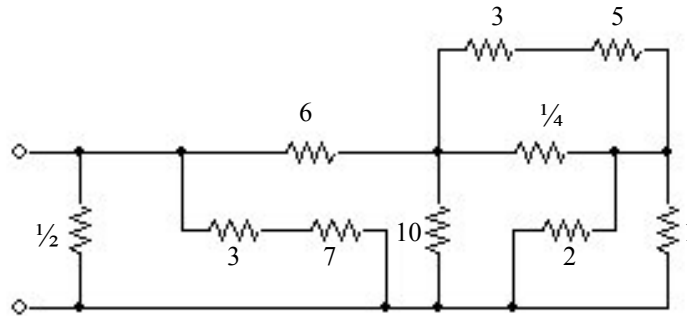


Risposta: $R_{eq} = \frac{1 + \sqrt{5}}{2} R$

Esercitazione 1

Esercizio 16:

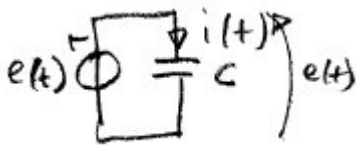
Calcolare R_{eq}



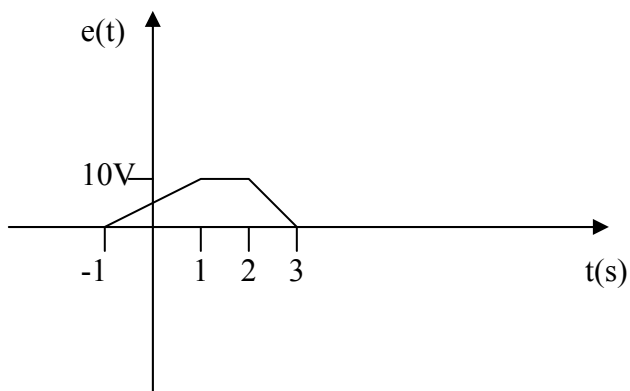
Risposta: $R_{eq} = \frac{410}{921} \approx 0.445$

Esercizio 17:

Disegnare il grafico della corrente $i(t)$ e dell'energia del condensatore:



$C=5F$

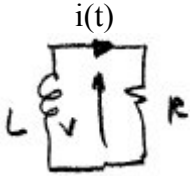




Esercitazione 1

Esercizio 18:

L'energia dell'induttore all'istante $t=0$ vale 1J . Noto inoltre $i(t)=e^{-t}\text{A}$, calcolare R e L .



Risposta: $L=2\text{H}$ $R=2\Omega$