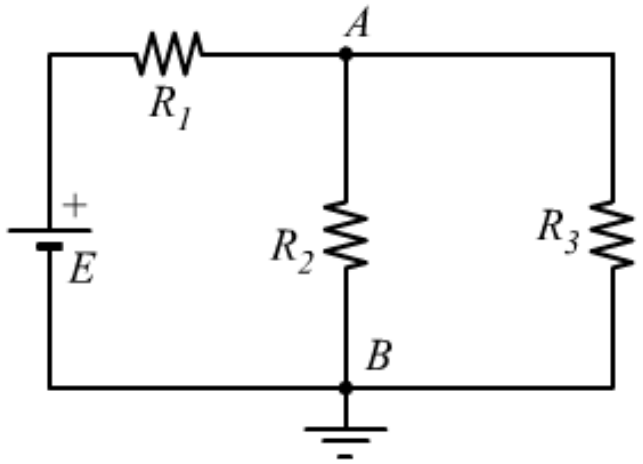
Esercizi Thevenin

Esercizio 1

Applicando il teorema di Thevenin calcolare la corrente I_3 nella resistenza R_3



E=2V

R_1=200Ω

R_2=4,2kΩ

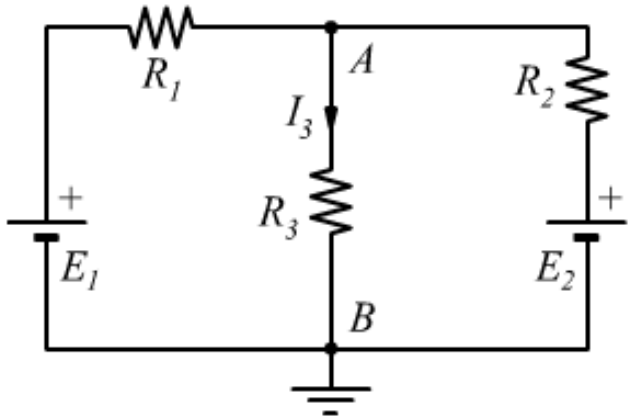
R_3=800Ω

I_3=?

[I_3=1,92 mA]

Esercizio 2

Applicando il teorema di Thevenin calcolare la corrente I_3 nella resistenza R_3



E_1=11V

E_2=7V

R_1=2Ω

R_2=1Ω

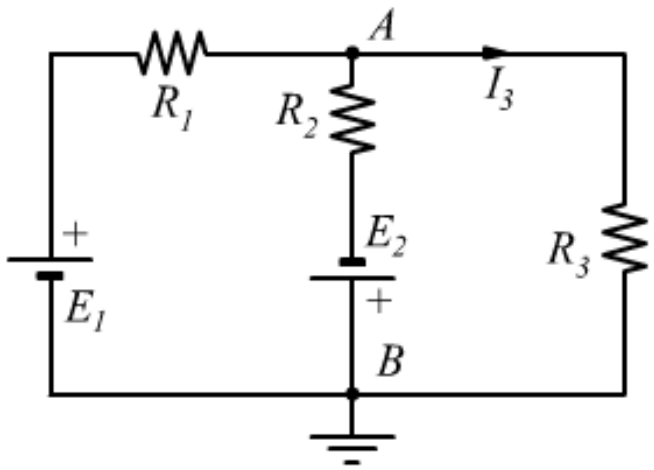
R_3=1Ω

I_3=?

[I_3=5A]

Esercizio 3

Applicando il teorema di Thevenin calcolare la corrente I_3 nella resistenza R_3



R_1=50Ω

R_2=150Ω

R_3=12,5Ω

E_1=10V

E_2=20V

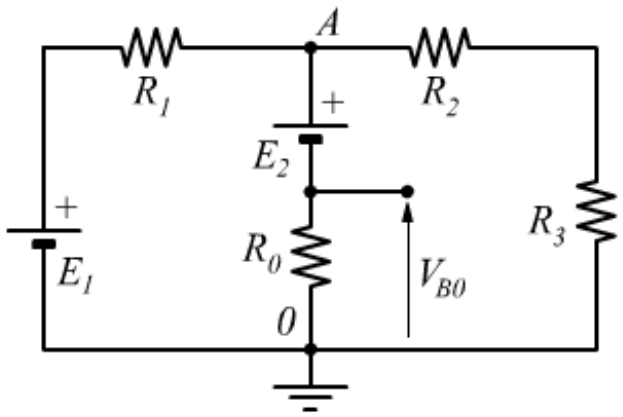
I_3=?

[I_3=50 mA]

Esercizio 4

Applicando il teorema di Thevenin calcolare la caduta di tensione V_{B0} sulla resistenza R_0.

In un secondo tempo ai capi di R_0 viene posta una resistenza R_L=6,6kΩ si trovi la nuova tensione V_{B0}



E_1=20V

E_2=3,2V

R_1=12KΩ

R_0=2,88KΩ

R_2=18KΩ

R_3=20KΩ

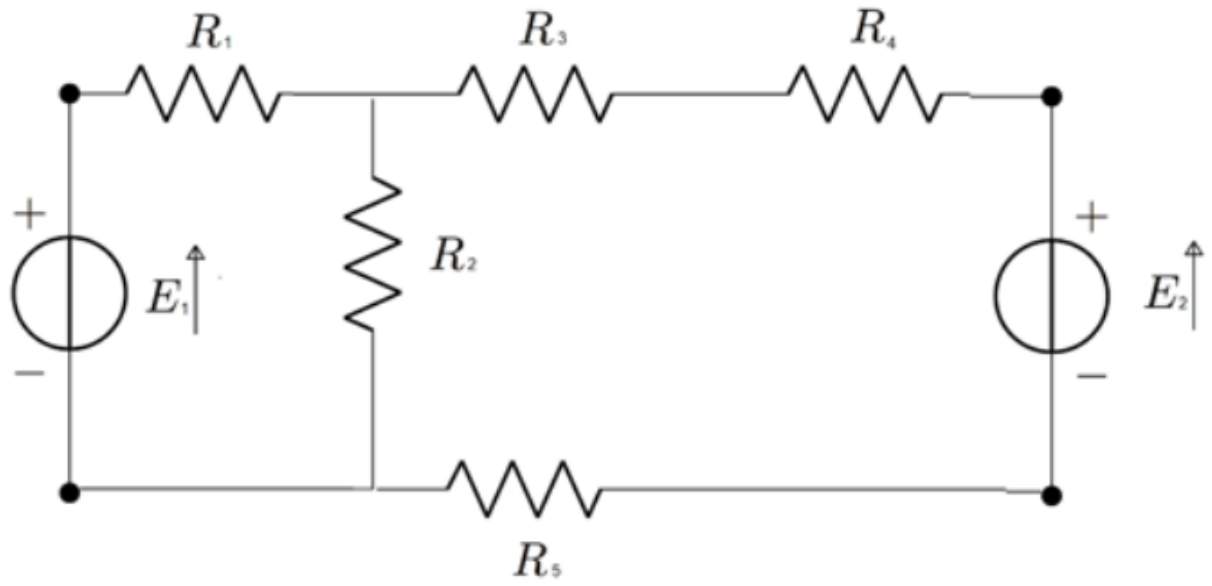
V_{B0}=?

[V_{BO}=2,88 V; V'_{BO}=2,15 V]

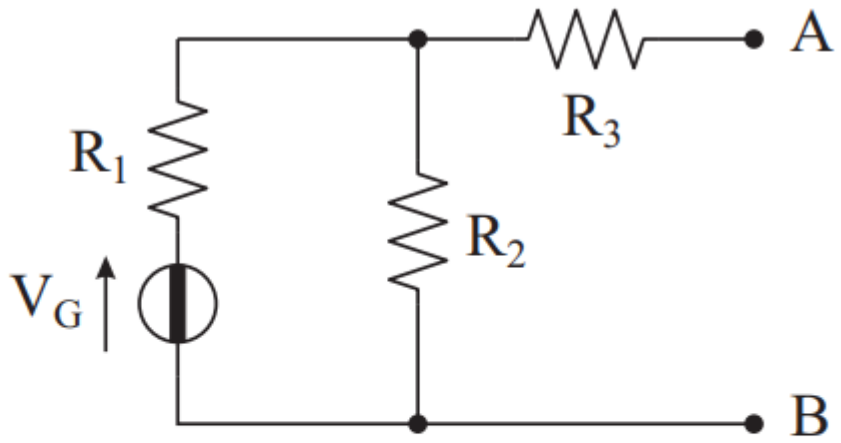
Esercizio 5

Calcolare la corrente che scorre in R_4

$E_1 = 100$ V; $R_1 = 10\ \Omega$; $R_2 = 20\ \Omega$; $R_3 = 5\ \Omega$;
$R_4 = 30\ \Omega$; $R_5 = 15\ \Omega$; $E_2 = 80$ V



Esercizio 6



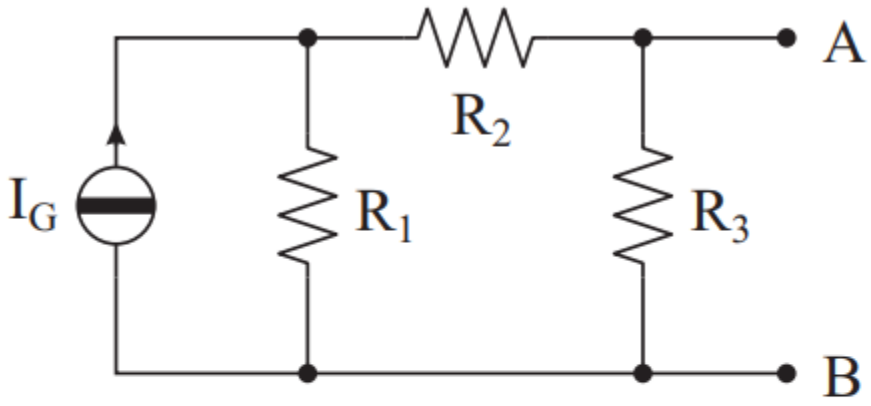
$R_1 = 4\ \Omega$
$R_2 = 12\ \Omega$
$R_3 = 6\ \Omega$
$V_G = 24\ V$

Determinare i parametri dei bipoli equivalenti di Thévenin e Norton del bipolo A-B.

Risultati

$V_0 = 18\ V$ $R_{eq} = 9\ \Omega$ $I_{cc} = 2\ A$

Esercizio 7



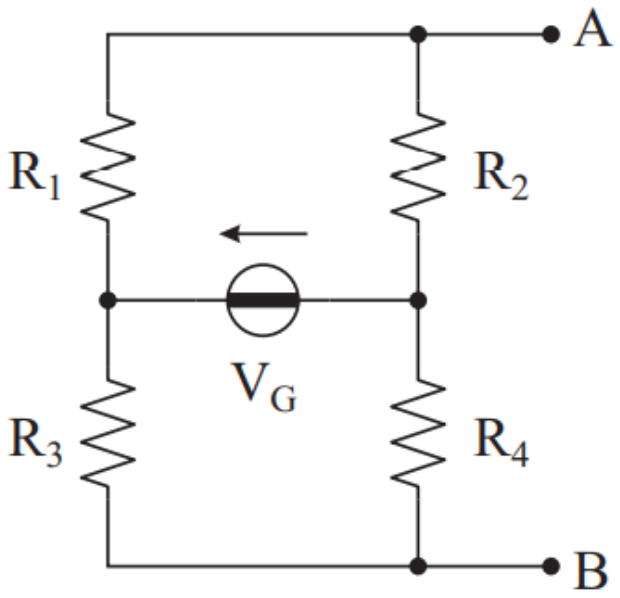
$R_1 = 6\ \Omega$
$R_2 = 2\ \Omega$
$R_3 = 8\ \Omega$
$I_G = 4\ A$

Determinare i parametri dei bipoli equivalenti di Thévenin e Norton del bipolo A-B.

Risultati

$V_0 = 12\ V$ $R_{eq} = 4\ \Omega$ $I_{cc} = 3\ A$

Esercizio 8



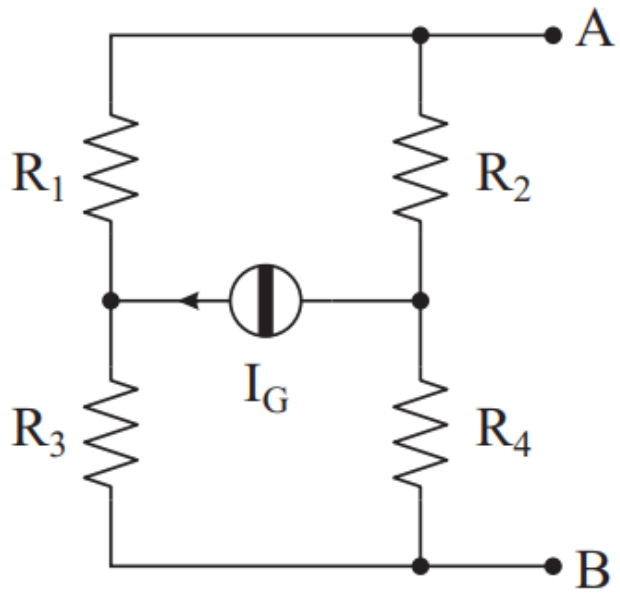
$R_1 = 20\ \Omega$
$R_2 = 20\ \Omega$
$R_3 = 60\ \Omega$
$R_4 = 20\ \Omega$
$V_G = 100\ V$

Determinare i parametri dei bipoli equivalenti di Thévenin e Norton del bipolo A-B.

Risultati

$V_0 = 25\ V$ $R_{eq} = 25\ \Omega$ $I_{cc} = 1\ A$

Esercizio 9



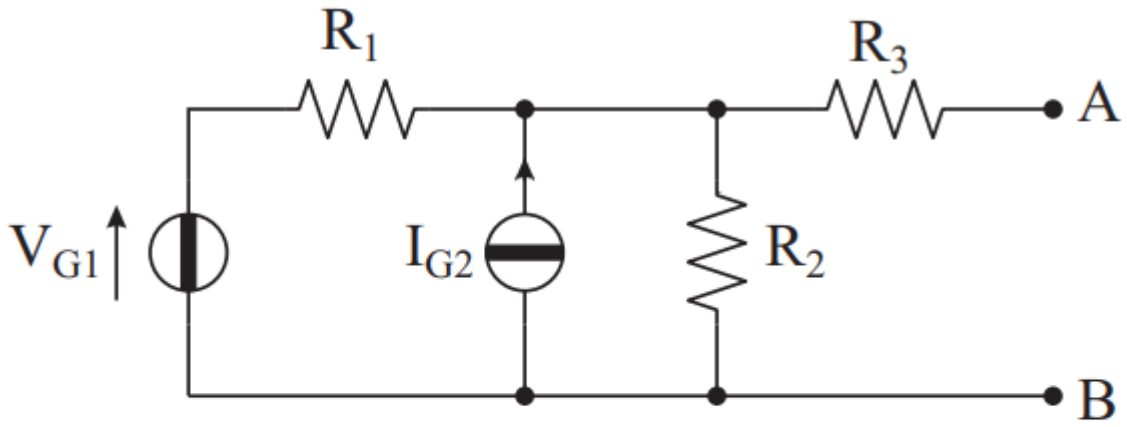
$R_1 = 20\ \Omega$
$R_2 = 15\ \Omega$
$R_3 = 10\ \Omega$
$R_4 = 5\ \Omega$
$I_G = 6\ A$

Determinare i parametri dei bipoli equivalenti di Thévenin e Norton del bipolo A-B.

Risultati

$V_0 = 6\ V$ $R_{eq} = 12\ \Omega$ $I_{cc} = 0.5\ A$

Esercizio 10



$R_1 = 15\ \Omega$
$R_2 = 10\ \Omega$
$R_3 = 10\ \Omega$
$V_{G1} = 30\ V$
$I_{G2} = 2\ A$

Determinare i parametri dei bipoli equivalenti di Thévenin e Norton del bipolo A-B.

Risultati

$V_0 = 24\ V$ $R_{eq} = 16\ \Omega$ $I_{cc} = 1.5\ A$