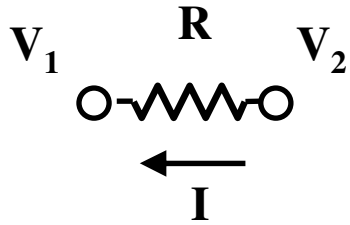


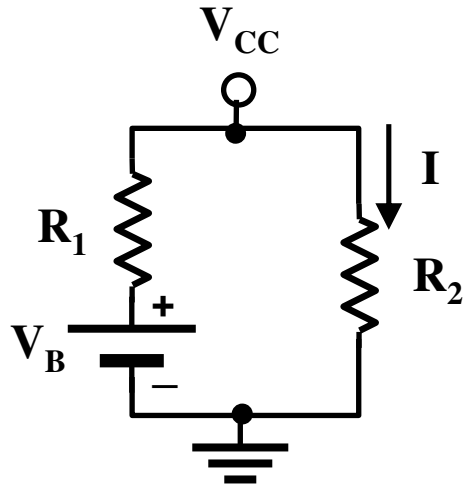
A

$$R = 1 \text{ K}\Omega$$

$$V_1 = 5 \text{ V}$$

$$V_2 = 2 \text{ V}$$

$$I = \dots\dots\dots$$

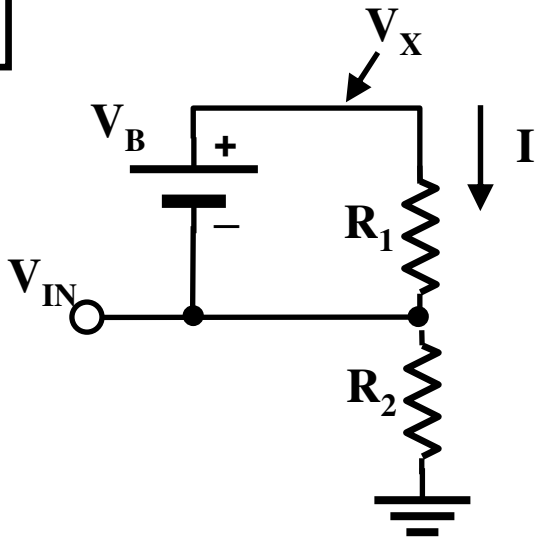
B

$$R_1 = R_2 = 1 \text{ K}\Omega$$

$$V_{CC} = 10 \text{ V}$$

$$V_B = 5 \text{ V}$$

$$I = \dots\dots\dots$$

C

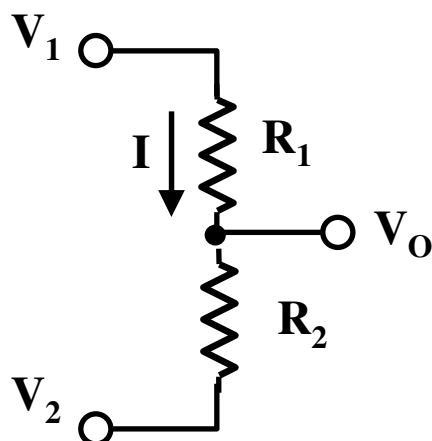
$$R_1 = R_2 = 1 \text{ K}\Omega$$

$$V_{IN} = 10 \text{ V}$$

$$V_B = 5 \text{ V}$$

$$I = \dots\dots\dots$$

$$V_X = \dots\dots\dots$$

D

$$R_1 = 10 \text{ K}\Omega$$

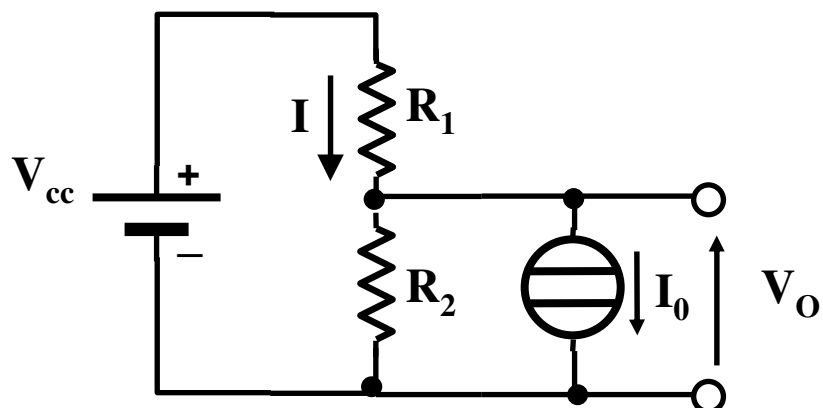
$$R_2 = 2 \text{ K}\Omega$$

$$V_1 = 14 \text{ V}$$

$$V_2 = 2 \text{ V}$$

$$I = \dots\dots\dots$$

$$V_O = \dots\dots\dots$$

E

$$R_1 = 10 \text{ K}\Omega$$

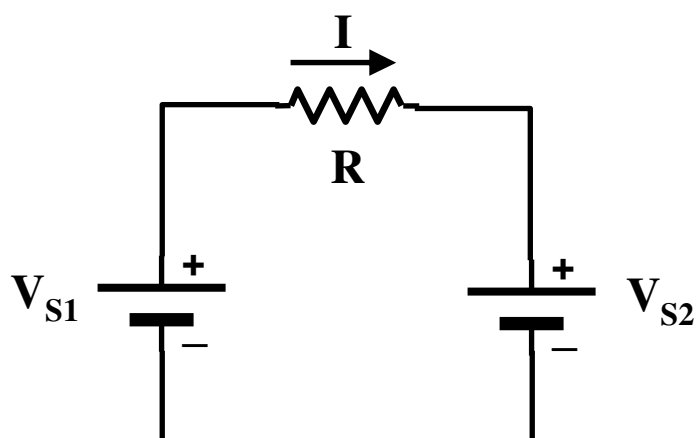
$$R_2 = 10 \text{ K}\Omega$$

$$V_{cc} = 12 \text{ V}$$

$$I_0 = 2 \text{ mA}$$

$$V_o = \dots\dots\dots$$

$$I = \dots\dots\dots$$

F

$$R_1 = 1 \text{ K}\Omega$$

$$V_{S1} = 10 \text{ V}$$

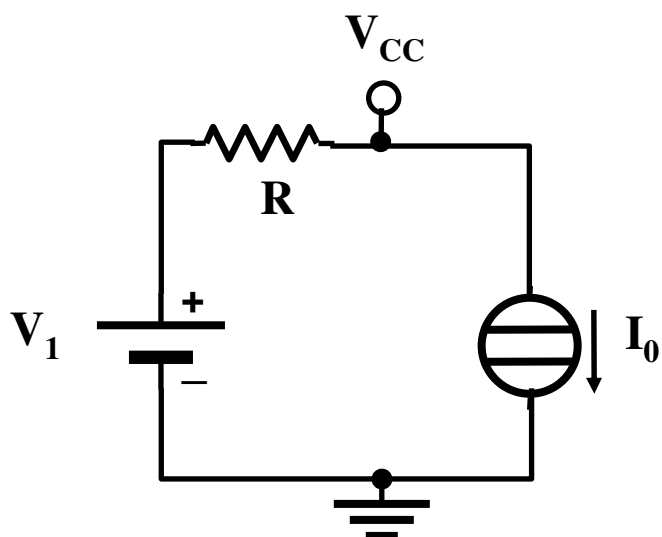
$$V_{S2} = 20 \text{ V}$$

$$I = \dots\dots\dots$$

$$P_{S1} = \dots\dots\dots$$

$$P_{S2} = \dots\dots\dots$$

$$P_R = \dots\dots\dots$$

G

$$R = 1 \text{ K}\Omega$$

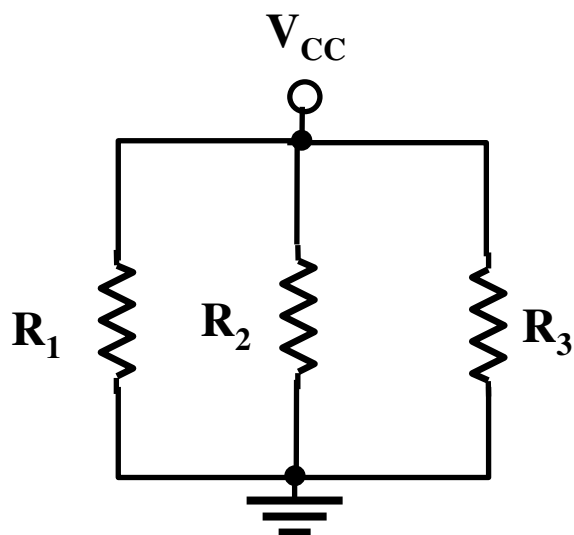
$$V_1 = 10 \text{ V}$$

$$V_{cc} = 20 \text{ V}$$

$$I_0 = 5 \text{ mA}$$

$$I_{cc} = \dots\dots\dots$$

$$I_{GND} = \dots\dots\dots$$

H

$$R_1 = 100 \, \Omega$$

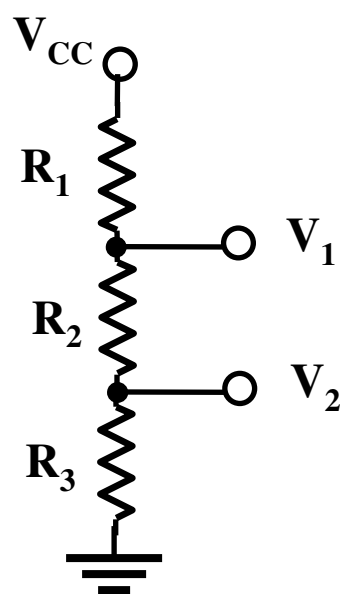
$$R_2 = 10 \, \text{K}\Omega$$

$$R_3 = 1 \, \text{K}\Omega$$

$$V_{CC} = 10\text{V}$$

$$I_2 = \dots I_1$$

$$I_3 = \dots I_1$$

I

$$R_1 = 2 \, \text{K}\Omega$$

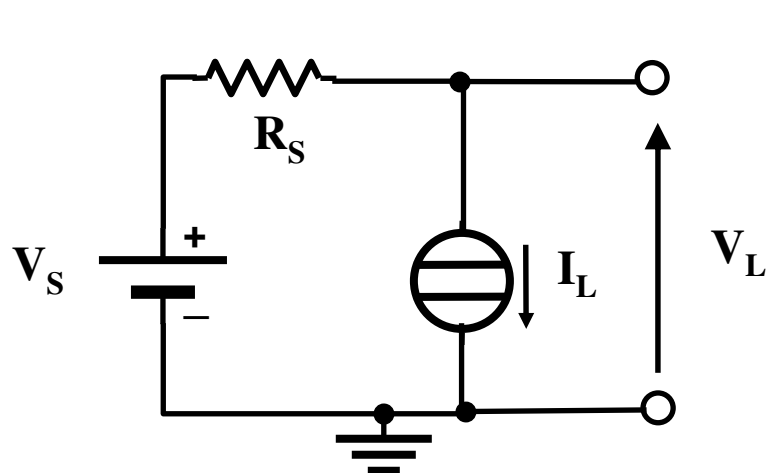
$$R_2 = 3 \, \text{K}\Omega$$

$$R_3 = 5 \, \text{K}\Omega$$

$$V_{CC} = 10\text{V}$$

$$V_1 = \dots\dots$$

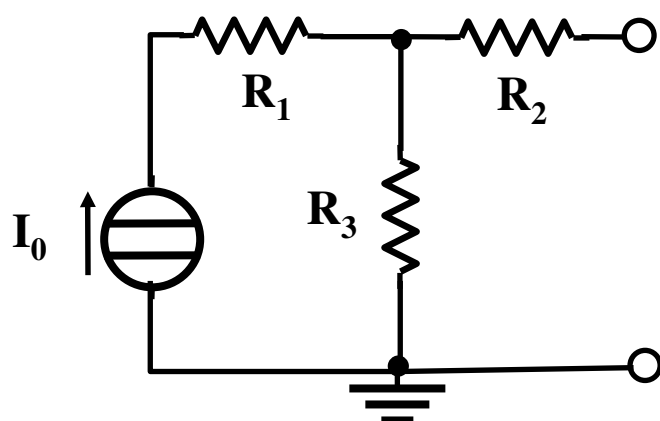
$$V_2 = \dots\dots$$

J

$$R_S = 1 \, \text{K}\Omega$$

$$V_S = 10\text{V}$$

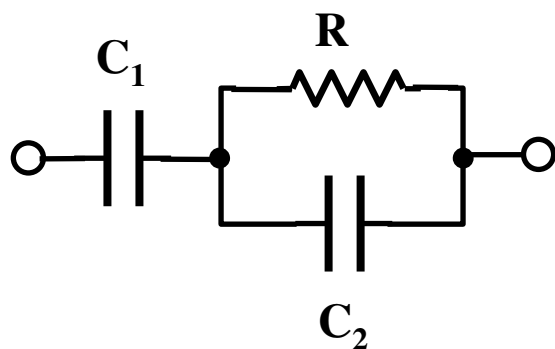
Tracciare la caratteristica $V_L - I_L$

K

$$R_1 = R_2 = R_3 = 1 \text{ K}\Omega$$

$$I_0 = 1 \text{ mA}$$

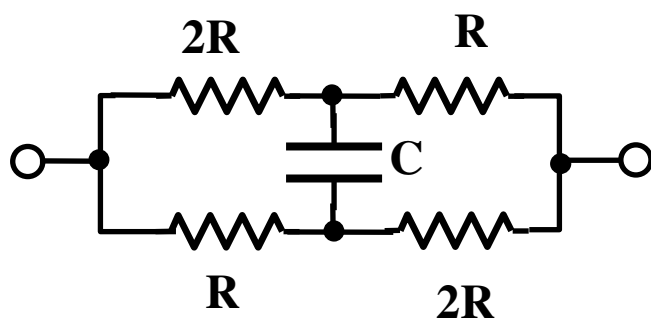
Determinare i circuiti equivalenti Thevenin e Norton

L

$$R = 1 \text{ K}\Omega, C_1 = 50 \mu\text{F}, C_2 = 160 \text{ nF}$$

1) Determinare l'espressione letterale dell'impedenza equivalente.

2) Determinare il valore della corrente che attraversa il bipolo se ai suoi capi viene applicata una tensione sinusoidale V_Z di frequenza 1 KHz e ampiezza picco-picco pari ad 1 V

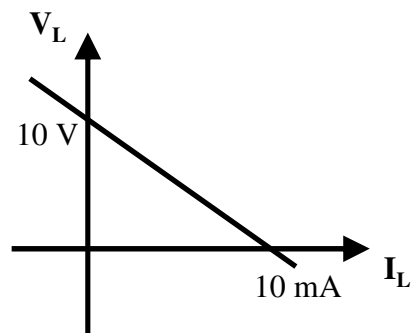
M

Determinare l'espressione letterale dell'impedenza equivalente.

Risposte:

- A** $I = -3 \text{ mA}$
B $I = 10 \text{ mA}$
C $I = 5 \text{ mA}$ $V_X = 15 \text{ V}$
D $I = 1 \text{ mA}$ $V_O = 4 \text{ V}$
E $V_O = -4 \text{ V}$ $I = 1.6 \text{ mA}$
F $I = -10 \text{ mA}$ $P_{S1} = -100 \text{ mW}$ $P_{S2} = 200 \text{ mW}$ $P_R = 100 \text{ mW}$
G $I_{CC} = 15 \text{ mA}$ $I_{GND} = 15 \text{ mA}$
H $I_2 = 0.01 I_1$ $I_3 = 0.1 I_1$
I $V_1 = 8 \text{ V}$ $V_2 = 5 \text{ V}$

J $V_L = V_S - R_S I_L$



K $V_{TH} = 1 \text{ V}$, $R_{TH} = 2 \text{ k}\Omega$ $I_N = 500 \mu\text{A}$, $G_N = 500 \mu\text{S}$

L $Z_{EQ} = \frac{1 + j\omega R(C_1 + C_2)}{j\omega C_1(1 + j\omega RC_2)}$ $i(t) = 707 \cdot \sin(\omega t + \pi/4) \mu\text{A}$

M $Z_{EQ} = \frac{3}{2} R \frac{1 + j\omega \frac{4}{3} RC}{1 + j\omega \frac{3}{2} RC}$