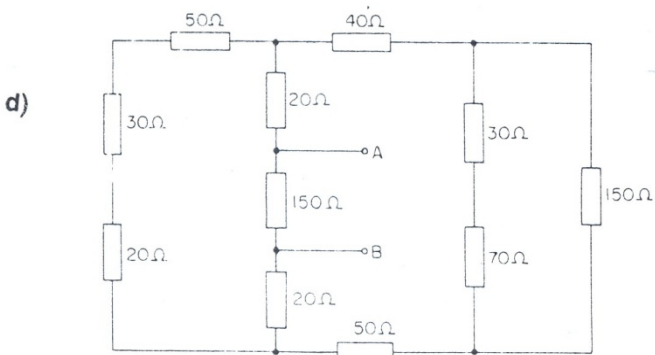
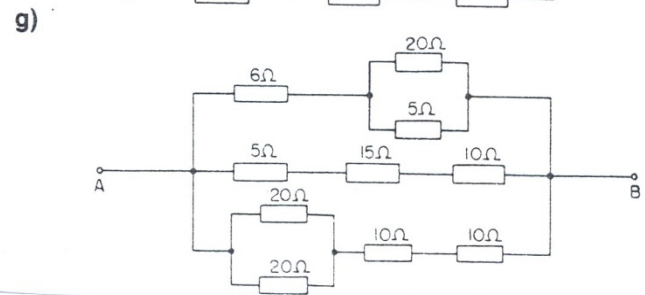
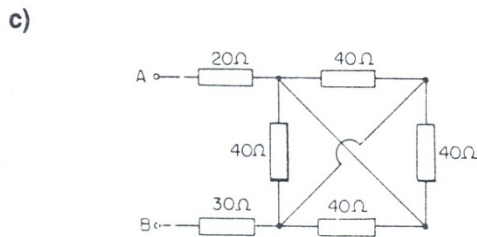
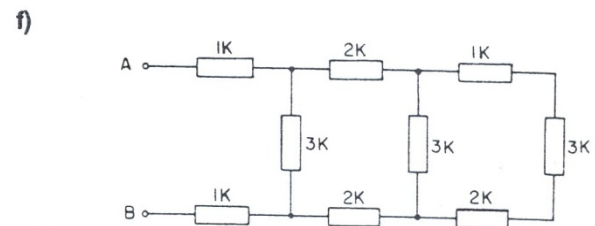
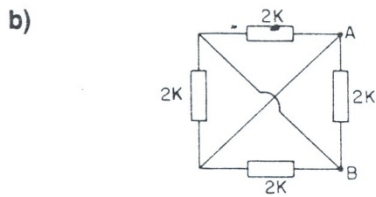
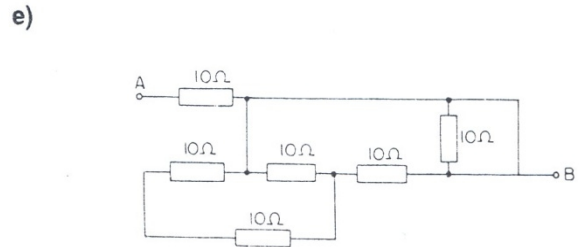
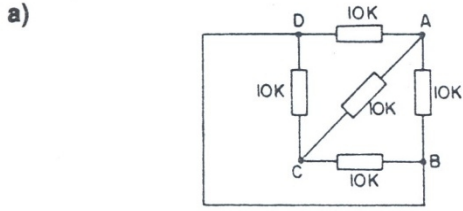
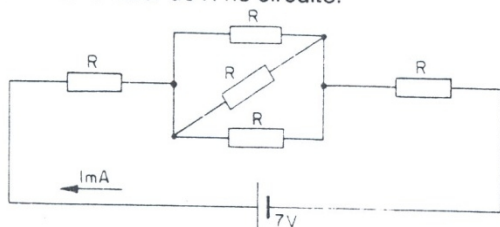


Exercícios – 4

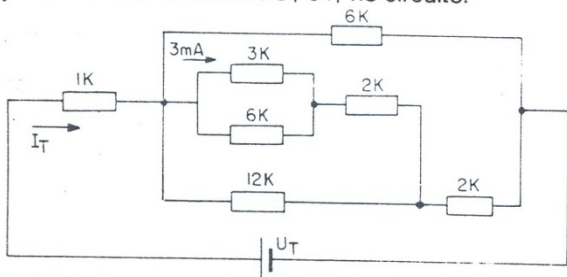
1) Determine a resistência equivalente em cada caso entre os pontos A e B



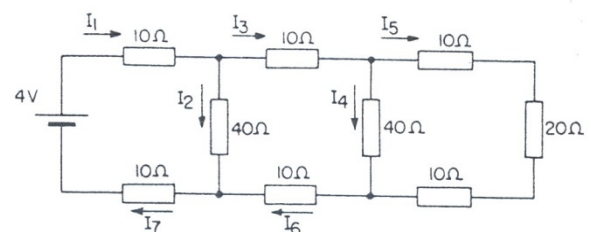
2) Determinar o valor de R no circuito.



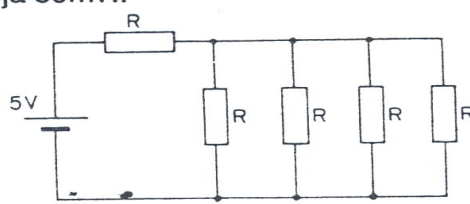
3) Determinar o valor de U_T e I_T no circuito.



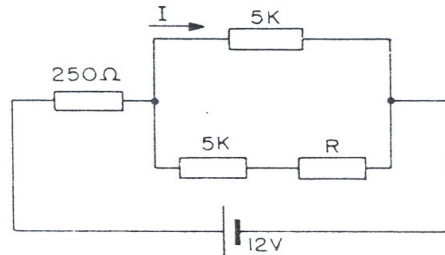
4) Determinar a intensidade da corrente em todos os resistores.



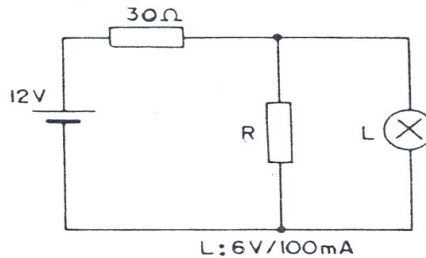
- 5) Quer-se obter uma resistência de $3,5\Omega$ com o menor número de resistores de 1Ω . Como devem ser ligados entre si? Faça o esquema.
- 6) No circuito, determine qual deve ser o valor de R para que a potência elétrica do gerador seja 50mW .



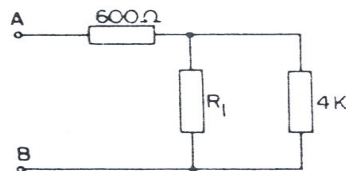
- 7) Determinar R para que $I = 2,25\text{mA}$



- 8) Determinar R para que a lâmpada funcione dentro de suas características.

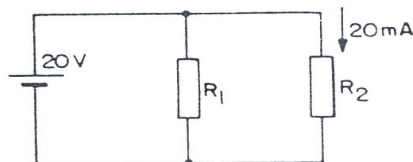


- 9) Dois resistores R_1 e R_2 em paralelo dissipam um total de 360mW . Sabendo-se que a fonte fornece 30mA e que a potência dissipada em R_1 é 72mW , quais os valores de R_1 e R_2 ?
- 10) Determinar R_1 no circuito para a resistência equivalente entre A e B seja $3\text{K}\Omega$.

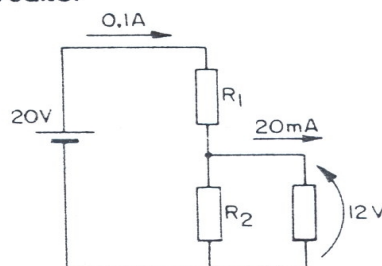


- 11) No circuito, a fonte fornece uma potência de 2W . Determinar:

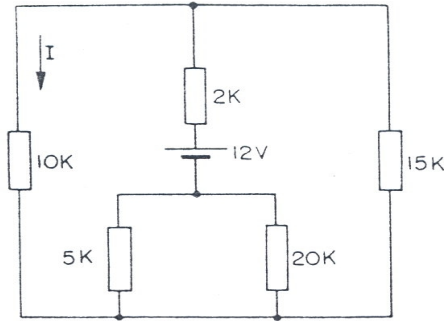
- a) valor de R_1 e R_2
 b) Corrente em R_1



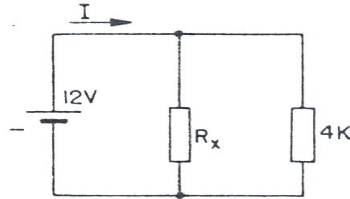
- 12) Determinar R_1 e R_2 no circuito.



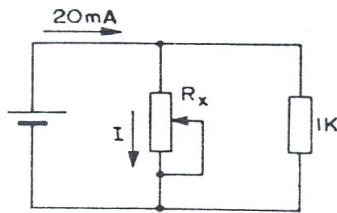
13) Determinar I no circuito



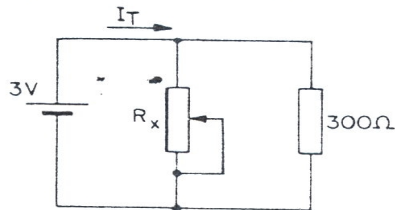
14) Determinar R_x para que $I = 4\text{mA}$



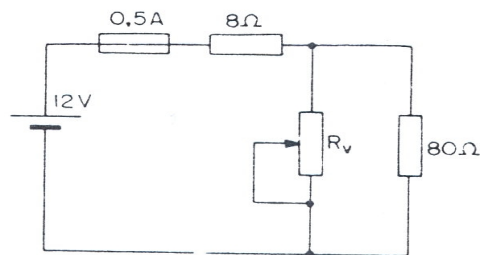
15) Determinar R_x para que $I = 8\text{mA}$



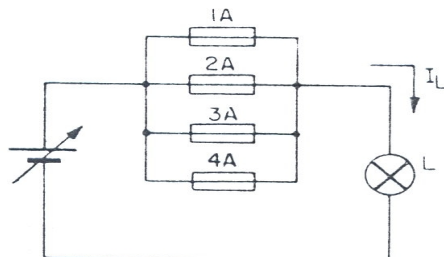
16) Determinar R_x para que $I_T = 15\text{mA}$



17) No circuito, qual o menor valor que o reostato pode assumir, sem que o fusível queime?



18) No circuito, os fusíveis apresentam mesma resistência. Qual a máxima corrente que pode passar pela lâmpada, sem que haja queima de qualquer fusível?



Obs.: Os fusíveis têm mesma resistência.

Respostas:

1a) $R_{eq} = 3,75 \Omega$ 1b) $R_{eq} = 0,5 \text{ k}\Omega$ 1c) $R_{eq} = 60 \Omega$ 1d) $R_{eq} = 60 \Omega$

1e) $R_{eq} = 10 \Omega$ 1f) $R_{eq} = 4 \text{ k}\Omega$ 1g) $R_{eq} = 6 \Omega$

2) $R_{eq} = 4 \text{ k}\Omega$

3) $U_T = 41 \text{ V}$; $I_T = 11 \text{ mA}$

4) $I_1 = 100 \text{ mA}$ $I_2 = 50 \text{ mA}$ $I_3 = 50 \text{ mA}$ $I_4 = 25 \text{ mA}$ $I_5 = 25 \text{ mA}$ $I_6 = 50 \text{ mA}$
 $R_{eq} = 40 \Omega$ $I_T = 100 \text{ mA}$

6) $R = 400 \Omega$

7) $R = 10 \text{ k}\Omega$

8) $R = 60 \Omega$

9) $R_1 = 2 \text{ k}\Omega$; $R_2 = 500 \Omega$

10) $R = 6 \text{ k}\Omega$

11) $R_1 = 250 \Omega$; $R_2 = 1000 \Omega$; $I_T = 100 \text{ mA}$; $I_{R_1} = 80 \text{ mA}$

12) $R_1 = 80 \Omega$; $R_2 = 150 \Omega$

13) $R_{eq} = 12 \text{ k}\Omega$; $I_T = 1 \text{ mA}$; $I = 0,6 \text{ mA}$

14) $R_x = 12 \text{ k}\Omega$

15) $R_x = 1,5 \text{ k}\Omega$

16) $R_x = 600 \Omega$

17) $R_x = 20 \Omega$

18) $I = 4 \text{ A}$