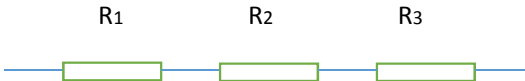
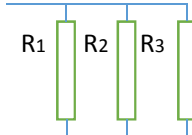
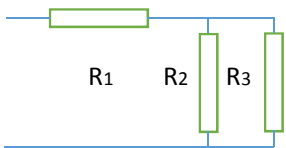


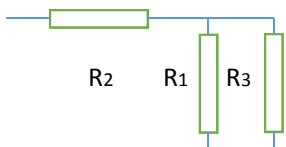
QUESTÃO 1

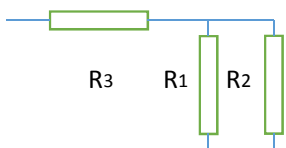
$R_1 = 2 \, \Omega$, $R_2 = 4 \, \Omega$, $R_3 = 6 \, \Omega$

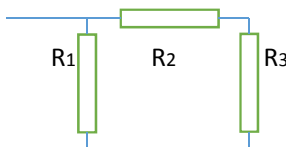
1.1.  $R_{eq} = R_1 + R_2 + R_3 = 2 + 4 + 6 = \mathbf{12 \, \Omega}$

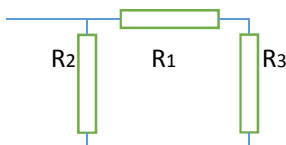
1.2.  $R_{eq} = 1/(1/R_1 + 1/R_2 + 1/R_3) = 1/(0,5 + 0,25 + 0,17) = 1/0,92 = \mathbf{1,09 \, \Omega}$

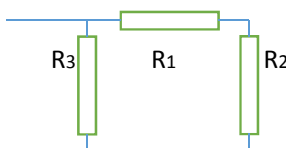
1.3.  $R_{eq} = R_1 + 1/(1/R_2 + 1/R_3) = 2 + 1/(0,25 + 0,17) = 2 + 2,38 = \mathbf{4,38 \, \Omega}$

1.4.  $R_{eq} = R_2 + 1/(1/R_1 + 1/R_3) = 4 + 1/(0,5 + 0,17) = 4 + 1,49 = \mathbf{5,49 \, \Omega}$

1.5.  $R_{eq} = R_3 + 1/(1/R_1 + 1/R_2) = 6 + 1/(0,5 + 0,25) = 6 + 1,33 = \mathbf{7,33 \, \Omega}$

1.6.  $R_{eq} = 1/(1/R_1 + 1/(R_2 + R_3)) = 1/(0,5 + 0,1) = \mathbf{1,66 \, \Omega}$

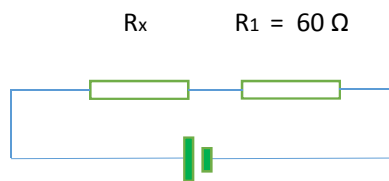
1.7.  $R_{eq} = 1/(1/R_2 + 1/(R_1 + R_3)) = 1/(0,25 + 0,125) = \mathbf{2,66 \, \Omega}$

1.8.  $R_{eq} = 1/(1/R_3 + 1/(R_1 + R_2)) = 1/(0,17 + 0,17) = \mathbf{2,94 \, \Omega}$

QUESTÃO 2

1ª parte

$V = RI$ (TENSÃO = RESISTÊNCIA x CORRENTE)

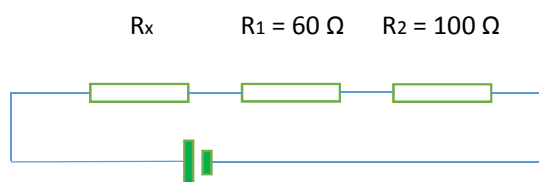


$V = ?$

$I = 1,2 \text{ A}$

$$V = (R_x + 60) \times 1,2 \quad (1)$$

2ª parte



$V = ?$

$I = 0,6 \text{ A}$

$$V = (R_x + 60 + 100) \times 0,6 \quad (2)$$

Então:

$$(R_x + 60) \times 1,2 = (R_x + 60 + 100) \times 0,6$$

$$1,2R_x + 72 = 0,6R_x + 96$$

$$1,2R_x - 0,6R_x = 96 - 72$$

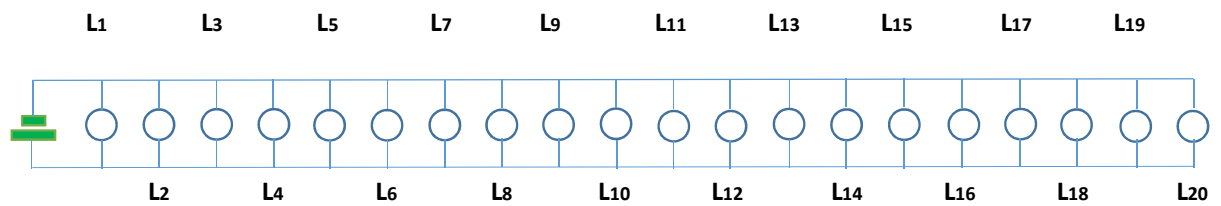
$$0,6R_x = 24$$

$$R_x = 24/0,6$$

$$R_x = 40 \Omega$$

Se $R_x = 40 \Omega$ Então: $V = 100 \times 1,2$ (na 1ª parte) ou $V = 200 \times 0,6$ (na 2ª parte) = **120 V**

QUESTÃO 3



$$V = 120$$

$$L1 \text{ a } L20 = 100 \text{ W}$$

$$P = VI$$

$$I = P/V$$

$$I = 100 \times 20/120$$

$$I = 16,66 \text{ A}$$

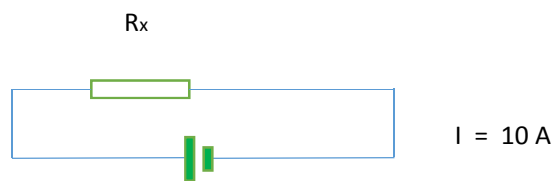
$$P = V^2/R$$

$$R = V^2/P$$

$$R = 120^2/100$$

$$R = 144 \Omega$$

QUESTÃO 4



$$120 \text{ V} - 4 \Omega \text{ (RESISTÊNCIA INTERNA)}$$

$$V = RI$$

$$R = V/I$$

$$R_x + 4 = 120/10$$

$$R_x = 12 - 4$$

$$R_x = 8 \Omega$$

QUESTÃO 5

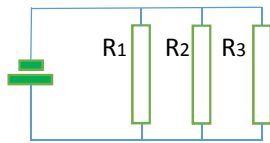
$$R_1 = 4 \, \Omega \quad I_{R1} = 3 \, A$$

$$R_2 = 3 \, \Omega \quad I_{R2} = ?$$

$$R_3 = 2 \, \Omega \quad I_{R3} = ?$$

$$V = ?$$

$$I_T = ?$$



$$V = RI$$

$$V = 4 \times 3$$

$$V = 12 \, V$$

$$I = V/R$$

$$I_{R2} = 12/3$$

$$I_{R2} = 4 \, A$$

$$I_{R3} = 12/2$$

$$I_{R3} = 6 \, A$$

Cálculo da corrente total I_T

Calcular a resistência equivalente

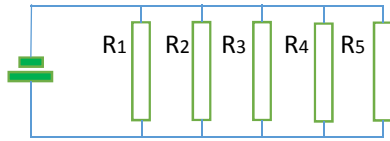
$$R_{eq} = 1/(1/R_1 + 1/R_2 + 1/R_3) = 1/(0,25 + 0,33 + 0,5) = 1/1,08 = 0,92 \, \Omega$$

Então:

$$I_T = 12/0,92$$

$$I_T = 13,04 \, A$$

QUESTÃO 6



$$R_1 = R_2 = R_3 = R_4 = R_5 = 1000 \, \Omega$$

$$I_{R1} = 0,1 \, A$$

$$V = ?$$

$$I_T = ?$$

$$R_{eq} = 1 / (1/R_1 + 1/R_2 + 1/R_3 + 1/R_4 + 1/R_5) = 1 / (0,001 + 0,001 + 0,001 + 0,001 + 0,001) = 1 / 0,005$$

$$R_{eq} = 200 \, \Omega$$

$$V = R I$$

$$V = 1000 \times 0,1$$

$$V = 100 \, V$$

$$I_T = V/R$$

$$I_T = 100/200$$

$$I_T = 0,5 \, A$$