

11

$$U = R_1 \cdot i_1$$

$$40 = R_1 \cdot 5$$

$$R_1 = 8\Omega$$

$$U = R_2 \cdot i_2$$

$$40 = R_2 \cdot 10$$

$$R_2 = 4\Omega$$

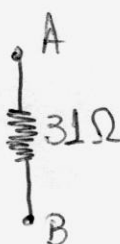
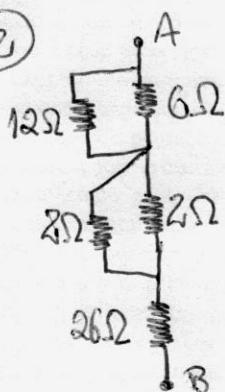
$$U_{CD} = R_{eq} \cdot i$$

$$U_{CD} = (R_1 + R_2) \cdot i$$

$$U_{CD} = (8 + 4) \cdot 4$$

$$U_{CD} = 48V$$

12



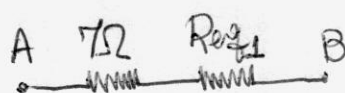
$$R_{eq} = 31\Omega$$

13

$$P = \frac{U_{AB}^2}{R_{eq}}$$

$$250 = \frac{50^2}{R_{eq}}$$

$$R_{eq} = 10\Omega$$



$$R_{eq} = 7 + R_{eq1}$$

$$10 = 7 + R_{eq1}$$

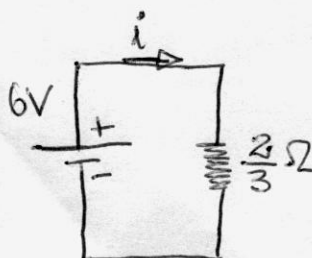
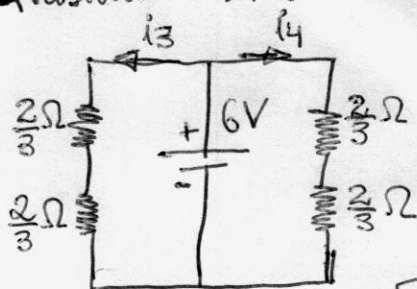
$$R_{eq1} = 3\Omega$$

$$R_{eq1} = \frac{12 \cdot R}{12 + R}$$

$$3 = \frac{12 \cdot R}{12 + R}$$

$$R = 4\Omega$$

Questões Extra:



$$U = R_{eq} \cdot i$$

$$6 = \frac{2}{3} \cdot i$$

$$i = 9A$$

$$\begin{cases} i_3 = i_4 = \frac{i}{2} \\ i_3 = i_4 = 4,5A \end{cases}$$

$$\begin{cases} i_1 + i_2 = i_4 \\ (i_2 = 2i_1) \end{cases} \Rightarrow \begin{cases} i_2 = 3A \\ i_1 = 1,5A \end{cases}$$

Física - Orilton - 2º Ano

Questões objetivas

13

$$R_1 = R_2 = R_3 = R_4 = R$$

$$\begin{cases} U_1 = U_2 = 12V \text{ (Paralelo)} \\ U_3 = U_4 = 6V \text{ (Série)} \end{cases}$$

$$i_1 = i_2 = \frac{12}{R} \text{ (Lâmpadas 1 e 2)}$$

$$i_3 = i_4 = \frac{12}{2R} \text{ (Lâmpadas 3 e 4)} \\ \text{(Série)}$$

$$i_2 > i_3 \text{ letra } \underline{c}$$

14

$$P_1 = \frac{U^2}{R} \text{ (Duas lâmpadas não ligam)}$$

$$P_2 = \frac{U^2}{2R} \text{ (Uma lâmpada não liga e as outras ficam em série)}$$

$$P_2 = \frac{P_1}{2} \text{ letra } \underline{a}$$

15

No circuito A:

$$R_A = R_B = R'$$

(Resistências iguais)

$$\begin{cases} i_B = \frac{E}{R'} \\ i_A = \frac{E}{R'+R} \end{cases}$$

$$i_B > i_A$$

(A lâmpada B brilhará mais)

$$\text{letra } \underline{d}$$

16

Ch em A:

$$i = \frac{U}{R/2}$$

$$i_1 = i_3 = \frac{U}{R}$$

Ch em B:

$$i' = \frac{U}{R/2 + R} = \frac{U}{1.5R}$$

$$i_1' = i_3' = \frac{U}{3R}$$

$$i_1 > i_1' \text{ letra } \underline{c}$$