RESISTOR CIRCUITS 1

Applying the rules for voltage and current dividers, find the missing quantities in the five resistor circuits.

R =

A 4 $k\Omega$ R 2 mA

C $2 \ k\Omega \qquad \qquad I_1 = \\ I_1 \qquad \qquad I_2 \qquad \qquad I_2 = \\ I_2 \ k\Omega \qquad \qquad I_2 = \\ I_3 \ k\Omega \qquad \qquad I_4 \ k\Omega \qquad \qquad I_2 = \\ I_4 \ k\Omega \qquad \qquad I_5 \ k\Omega \qquad \qquad I_6 = \\ I_1 \ \qquad \qquad I_1 = \\ I_2 \ \qquad \qquad I_2 = \\ I_3 \ \qquad \qquad I_4 \ k\Omega \qquad \qquad I_5 = \\ I_4 \ \qquad \qquad I_5 \ \qquad \qquad I_6 = \\ I_8 \ \qquad \qquad I_8 \ \qquad \qquad I_9 = \\ I_9 \ \qquad \qquad I_9 \ \qquad \qquad I_9 \ \qquad I_9 = \\ I_9 \ \qquad \qquad I_9 \ \qquad I_9 \ \qquad I_9 = \\ I_9 \ \qquad \qquad I_9 \ \qquad I_9 \ \qquad I_9 \ \qquad I_9 \ \qquad I_9 = \\ I_9 \ \qquad \qquad I_9 \ \qquad I$

E $I_{1} = \frac{2 \text{ k}\Omega}{R_{1}}$ $R_{1} = \frac{R_{2}}{R_{2}}$ $R_{2} = \frac{R_{2}}{R_{2}}$ $R_{3} = \frac{R_{4} + R_{2}}{R_{2}}$ $R_{4} = \frac{R_{4} + R_{2}}{R_{2}}$ $R_{5} = \frac{R_{1} + R_{2}}{R_{2}}$ $R_{1} = \frac{R_{2} + R_{3}}{R_{4} + R_{4}}$ $R_{2} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{3} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{4} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{5} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{1} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{2} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{3} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{4} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{5} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{1} = \frac{R_{4} + R_{4}}{R_{4}}$ $R_{2} = \frac{R_{4} + R_{4}}{R_{4} + R_{4}}$ $R_{4} = \frac{R_{4} + R_{4}}{R_{4}}$

 $\textbf{Solutions: a 2 k}\Omega; \texttt{b 30 V, 10 k}\Omega; \texttt{c 5 mA, 2.5 mA}; \texttt{d 24 V, 3 k}\Omega, \texttt{6 mA; e 4 k}\Omega, \texttt{3 k}\Omega, \texttt{27 mA, 8 mA}$

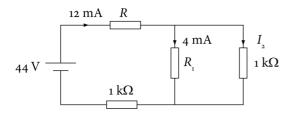
 $I_2 =$

Ву

RESISTOR CIRCUITS 2

Applying the rules for voltage and current dividers, find the missing quantities in the five resistor circuits.

A

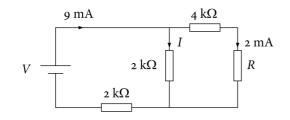


R =

 $R_1 =$

 $I_2 =$

В

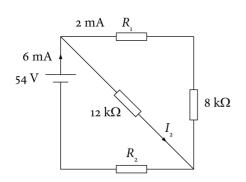


V =

R =

I =

С

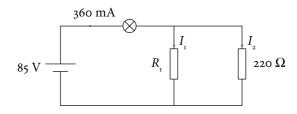


 $R_1 =$

 $R_2 =$

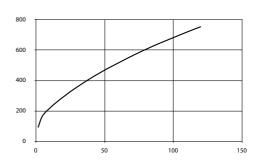
 $I_2 =$

D



Characteristic of the light bulb:

I [mA] vs. ΔV [V]



Ву

 $R_1 =$

 $I_1 =$

 $I_2 =$