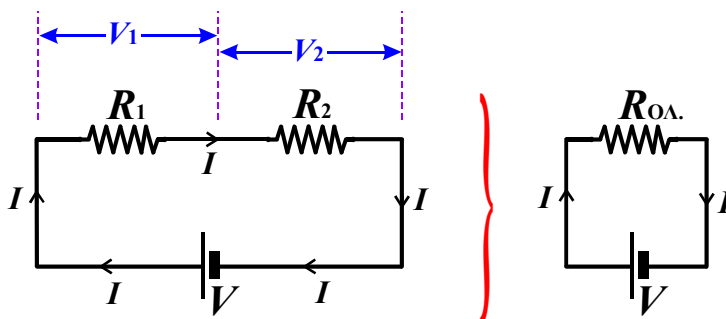


➡ Στις επόμενες ασκήσεις θα δίνουμε τις αντιστάσεις και την τάση της πηγής και θα ζητάμε την τάση, την ένταση και την ισχύ κάθε αντιστάτη...



$$\begin{aligned} R_1 &= 2 \, \Omega \\ R_2 &= 5 \, \Omega \\ V &= 21 \, \text{Volt} \end{aligned}$$



$$R_{O\Lambda} = R_1 + R_2 = 2 + 5 = 7 \, \Omega \quad I = \frac{V}{R_{O\Lambda}} = \frac{21}{7} = 3 \, A$$

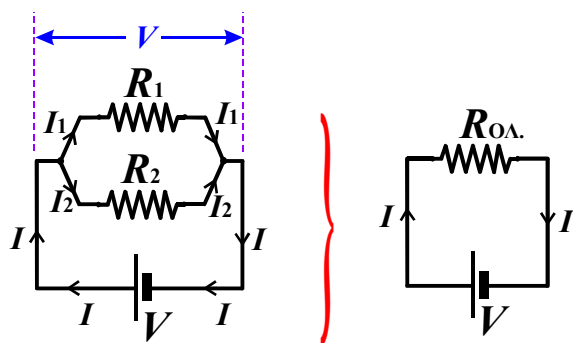
$$I = I_1 = I_2 = 3 \, A \therefore \text{...σε σειρά}$$

$$V_1 = I_1 R_1 = 3 \cdot 2 = 6 \, \text{Volt} \therefore \quad V_2 = I_2 R_2 = 3 \cdot 5 = 15 \, \text{Volt} \therefore \quad (\text{check} : V = V_1 + V_2)$$

$$P_1 = I_1 V_1 = 3 \cdot 6 = 18 \, \text{Watt} \therefore \quad P_2 = I_2 V_2 = 3 \cdot 15 = 45 \, \text{Watt} \therefore$$



$$\begin{aligned} R_1 &= 1 \, \Omega \\ R_2 &= 4 \, \Omega \\ V &= 16 \, \text{Volt} \end{aligned}$$



$$R_{O\Lambda} = \frac{R_1 \cdot R_2}{R_1 + R_2} = \frac{1 \cdot 4}{1 + 4} = \frac{4}{5} \, \Omega \quad I = \frac{V}{R_{O\Lambda}} = \frac{16}{4/5} = 20 \, A$$

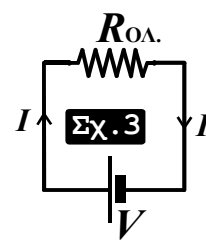
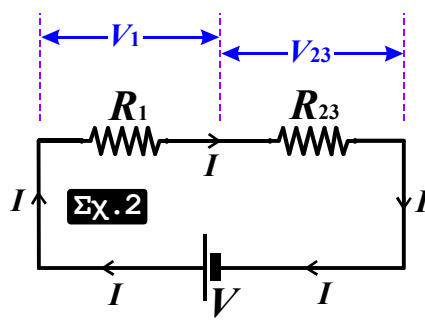
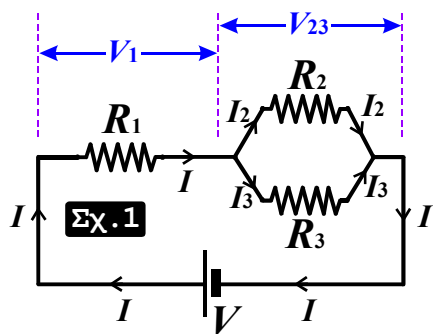
$$V = V_1 = V_2 = 16 \, \text{Volt} \therefore \text{...παράλληλα}$$

$$I_1 = \frac{V_1}{R_1} = \frac{16}{1} = 16 \, A \therefore \quad I_2 = \frac{V_2}{R_2} = \frac{16}{4} = 4 \, A \therefore \quad (\text{check} : I = I_1 + I_2)$$

$$P_1 = I_1 V_1 = 16 \cdot 16 = 256 \, \text{Watt} \therefore \quad P_2 = I_2 V_2 = 4 \cdot 16 = 64 \, \text{Watt} \therefore$$



$$\begin{aligned} R_1 &= 2 \, \Omega \\ R_2 &= 3 \, \Omega \\ R_3 &= 6 \, \Omega \\ V &= 20 \, \text{Volt} \end{aligned}$$



$$R_{23} = \frac{R_2 \cdot R_3}{R_2 + R_3} = \frac{3 \cdot 6}{3 + 6} = \frac{18}{9} = 2 \, \Omega \quad (\Sigma\chi.2)$$

$$R_{O\Lambda} = R_1 + R_{23} = 2 + 2 = 4 \, \Omega \quad I = \frac{V}{R_{O\Lambda}} = \frac{20}{4} = 5 \, A \quad (\Sigma\chi.3)$$

$$\left. \begin{aligned} I_1 = I_{23} = I = 5 \, A \therefore \text{...σε σειρά} \quad & \begin{aligned} V_1 &= I_1 R_1 = 5 \cdot 2 = 10 \, \text{Volt} \therefore \\ V_{23} &= I_{23} R_{23} = 5 \cdot 2 = 10 \, \text{Volt} \therefore \\ (\text{check} : V &= V_1 + V_{23}) \end{aligned} \end{aligned} \right\} (\Sigma\chi.2)$$

$$\left. \begin{aligned} V_2 = V_3 = V_{23} = 10 \, \text{Volt} \therefore \text{...παράλληλα} \quad & \begin{aligned} I_2 &= \frac{V_2}{R_2} = \frac{10}{3} \, A \therefore \\ I_3 &= \frac{V_3}{R_3} = \frac{10}{6} = \frac{5}{3} \, A \therefore \\ (\text{check} : I &= I_2 + I_3) \end{aligned} \end{aligned} \right\} (\Sigma\chi.1)$$

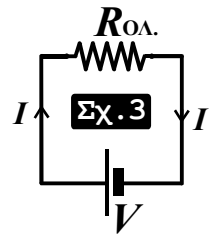
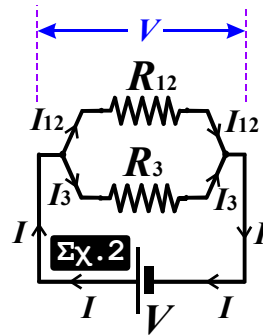
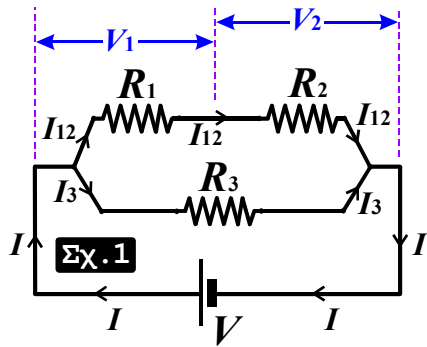
$$P_1 = I_1 V_1 = 5 \cdot 10 = 50 \, \text{Watt} \therefore$$

$$P_2 = I_2 V_2 = \frac{10}{3} \cdot 10 = \frac{100}{3} \, \text{Watt} \therefore$$

$$P_3 = I_3 V_3 = \frac{5}{3} \cdot 10 = \frac{50}{3} \, \text{Watt} \therefore$$



$$\begin{aligned}
 R_1 &= 2 \, \Omega \\
 R_2 &= 6 \, \Omega \\
 R_3 &= 8 \, \Omega \\
 V &= 12 \, \text{Volt}
 \end{aligned}$$



$$R_{12} = R_1 + R_2 = 2 + 6 = 8 \, \Omega \quad (\Sigma\chi.2)$$

$$R_{OA} = \frac{R_{12} \cdot R_3}{R_{12} + R_3} = \frac{8 \cdot 8}{8 + 8} = \frac{64}{16} = 4 \, \Omega \quad I = \frac{V}{R_{OA}} = \frac{12}{4} = 3 \, A \quad (\Sigma\chi.3)$$

$$V_{12} = V_3 = V = 12 \, \text{Volt} \therefore \dots \text{παράλληλα}$$

$$I_{12} = \frac{V_{12}}{R_{12}} = \frac{12}{8} = \frac{3}{2} \, A \therefore$$

$$I_3 = \frac{V_3}{R_3} = \frac{12}{8} = \frac{3}{2} \, A \therefore$$

$$(\text{check} : I = I_{12} + I_3)$$

(Σχ.2)

$$I_1 = I_2 = I_{12} = \frac{3}{2} \, A \therefore \dots \text{σε σειρά}$$

$$V_1 = I_1 R_1 = \frac{3}{2} \cdot 2 = 3 \, \text{Volt} \therefore$$

$$V_2 = I_2 R_2 = \frac{3}{2} \cdot 6 = 9 \, \text{Volt} \therefore$$

$$(\text{check} : V = V_1 + V_2)$$

(Σχ.1)

$$P_1 = I_1 V_1 = \frac{3}{2} \cdot 3 = \frac{9}{2} \, \text{Watt} \therefore$$

$$P_2 = I_2 V_2 = \frac{3}{2} \cdot 9 = \frac{27}{2} \, \text{Watt} \therefore$$

$$P_3 = I_3 V_3 = \frac{3}{2} \cdot 12 = 18 \, \text{Watt} \therefore$$