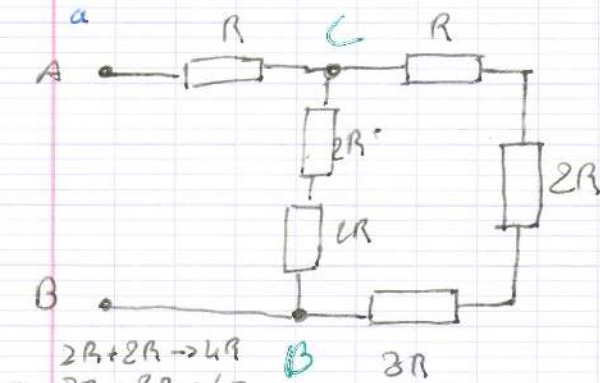


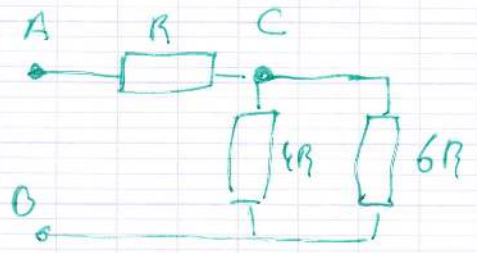
TD 1

Ex 2



$2R + 2R \rightarrow 4R$   
 $R + 3R + 2R \rightarrow 6R$   
 En serie :

En parallele :



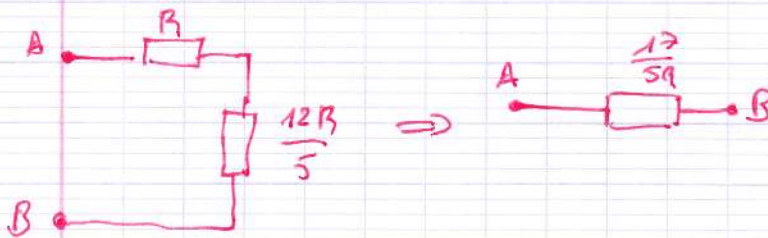
$$\frac{1}{R_{BC}} = \frac{1}{4R} + \frac{1}{6R}$$

$$= \frac{6}{24R} + \frac{4}{24R} = \frac{10}{24R}$$

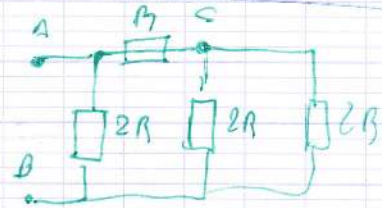
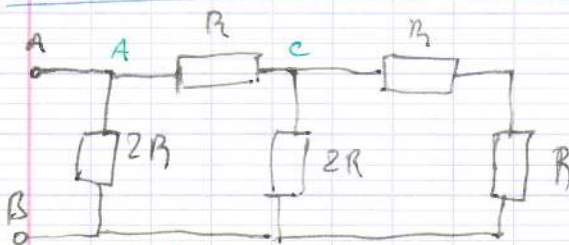
$\Sigma$  Resistance

$\Sigma$  Conductance  
 $= \Sigma \frac{1}{R}$

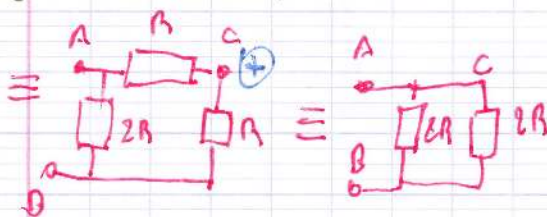
$$\frac{1}{R_{BC}} = \frac{5}{12R} \Leftrightarrow R_{BC} = \frac{12}{5R}$$

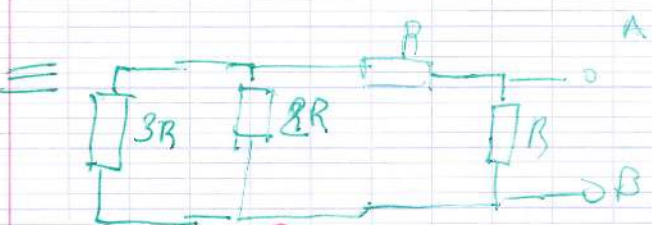
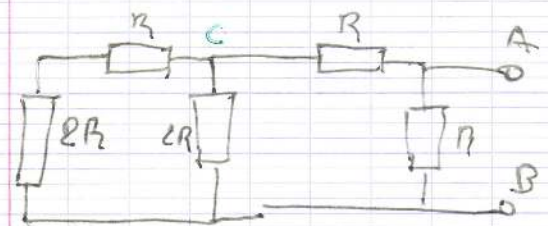
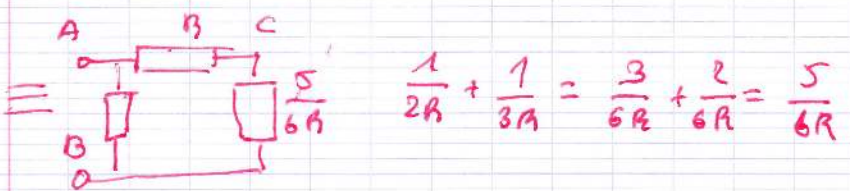
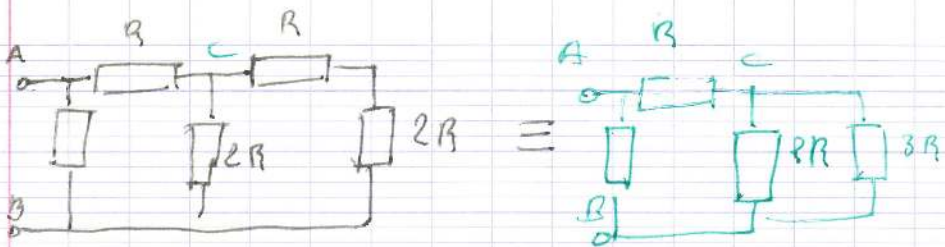


$$R_{AB} = \frac{17}{5R}$$

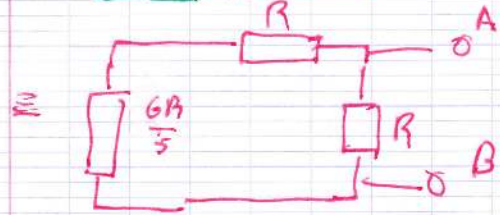


$$\frac{1}{R_{BC}} = \frac{1}{2R} + \frac{1}{2R} = \frac{2}{2R} = \frac{1}{R}$$

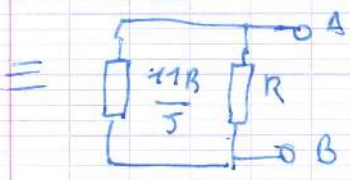




$$C = \frac{1}{\frac{2}{6R} + \frac{3}{6R}} = \frac{5}{6R}$$

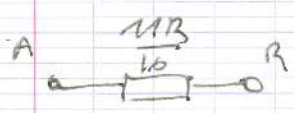


$$R = \frac{6R}{5}$$

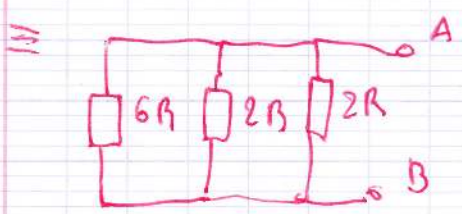
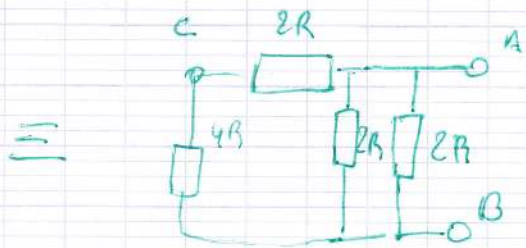
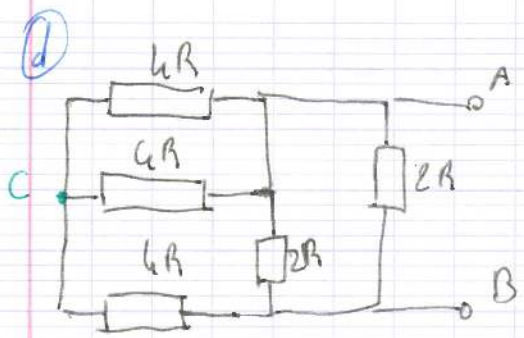


$$\frac{1}{R_{AB}} = \frac{1}{\frac{11R}{5}} + \frac{1}{R} = \frac{5}{11R} + \frac{1}{R} = \frac{5}{11R} + \frac{11}{11R}$$

$$= \frac{16}{11R} \Rightarrow R = \frac{11R}{16}$$

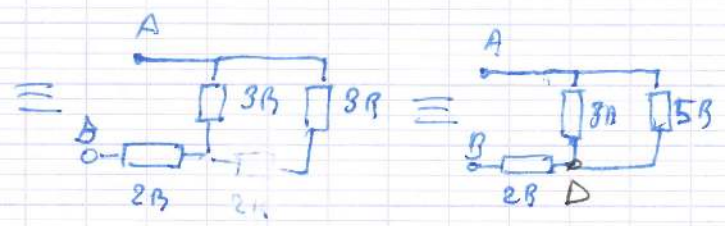
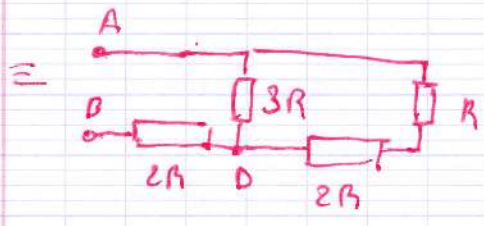
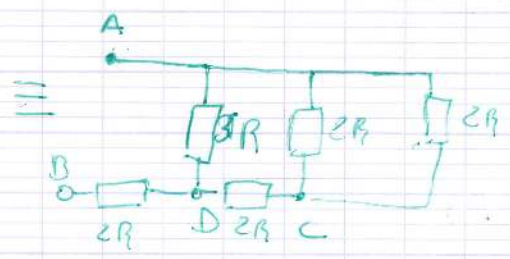
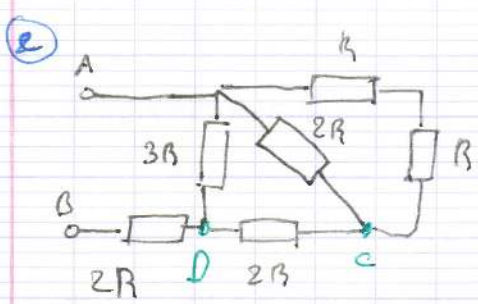




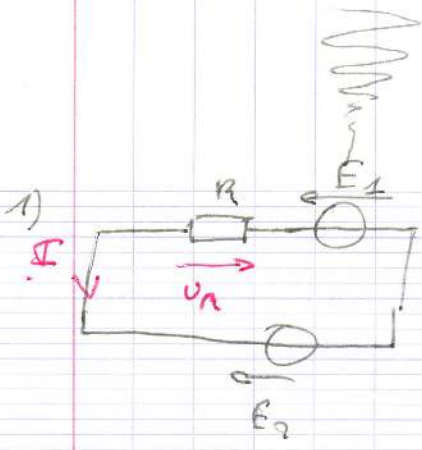


$$\begin{aligned} \frac{1}{R_{AB}} &= \frac{1}{6R} = \frac{1}{2R} + \frac{1}{2R} \\ &= \frac{2}{12R} + \frac{6}{12R} + \frac{6}{12R} = \frac{14}{12R} = \frac{7}{6R} \\ &= \frac{6R}{7} \end{aligned}$$

Ref.



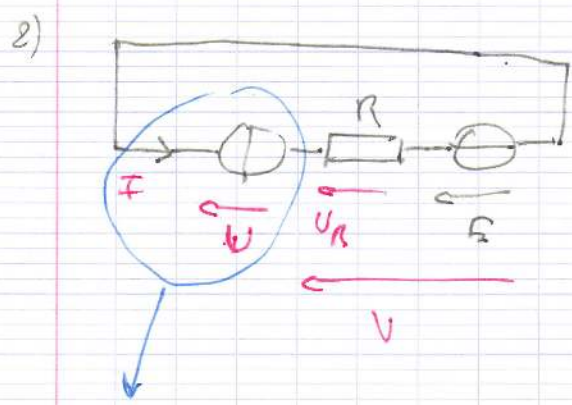
$$\begin{aligned} \frac{1}{R_{AB}} &= \frac{1}{3R} + \frac{1}{3R} = \frac{2}{3R} \\ R_{AB} &= \frac{3R}{2} + \frac{4R}{2} = \frac{7R}{2} \end{aligned}$$



$$\begin{cases} U_R = R \cdot I \\ E_2 + U_R - E_1 = 0 \end{cases}$$

$$I = \frac{E_1 - E_2}{R} = -5 \text{ mA}$$

1 kΩ



$$\begin{cases} U_R = R \cdot I \\ V + U = 0 \\ E + U_R + U = 0 \end{cases}$$

$$U_R = 0,3 \times 8$$

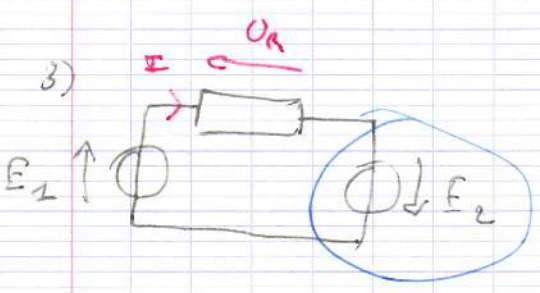
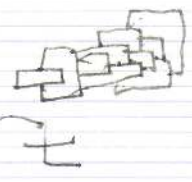
$$U_R = 2,4 \text{ V}$$

$$-U = E + U_R = 5 + 2,4 = 7,4$$

$$U = -7,4 \text{ V}$$

$$V = 7,4 \text{ V}$$

Convention recepteur  
 U et I sont de signe opposé  
 → Générateur.



$$U_R = R \cdot I$$

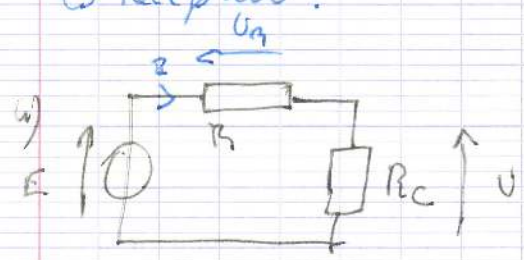
$$E_2 + U_R + E_1 = 0 \text{ (loi des mailles)}$$

$$E_2 = R \cdot I - E_1$$

$$= 2 \times 10 - 30$$

$$= -10 \text{ V}$$

Convention gen  
 → E2 et U sont opposés.  
 → Recepteur.



$$U_R = R \cdot I \quad U = R_c \cdot I$$

$$E - U_R - U = 0 \quad 80 = 8 \cdot I$$

$$I = 10 \text{ A}$$

$$E - R \cdot I - R_c \cdot I = 0$$

$$U = \frac{E \cdot R_c}{R + R_c}$$

Part diu de tensi