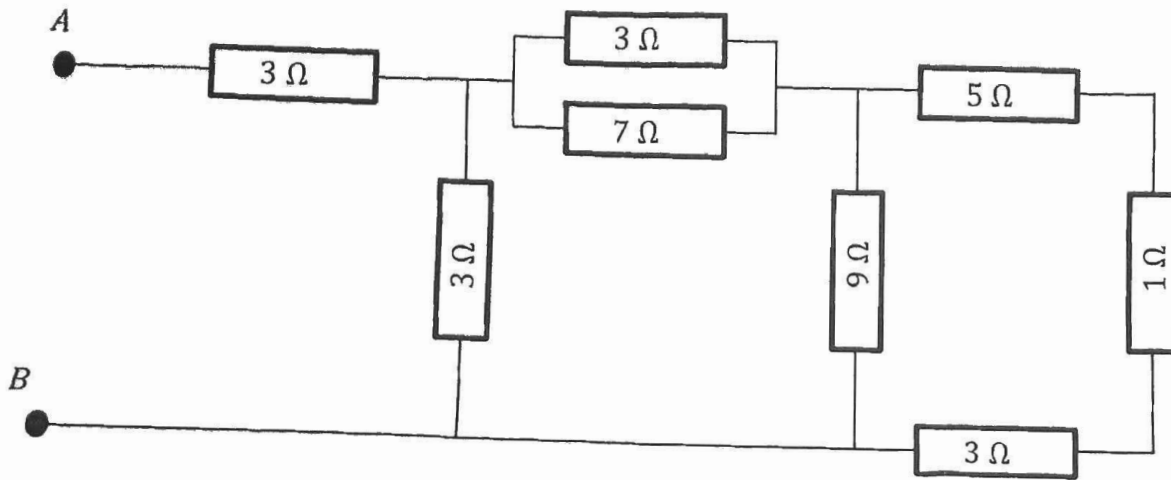


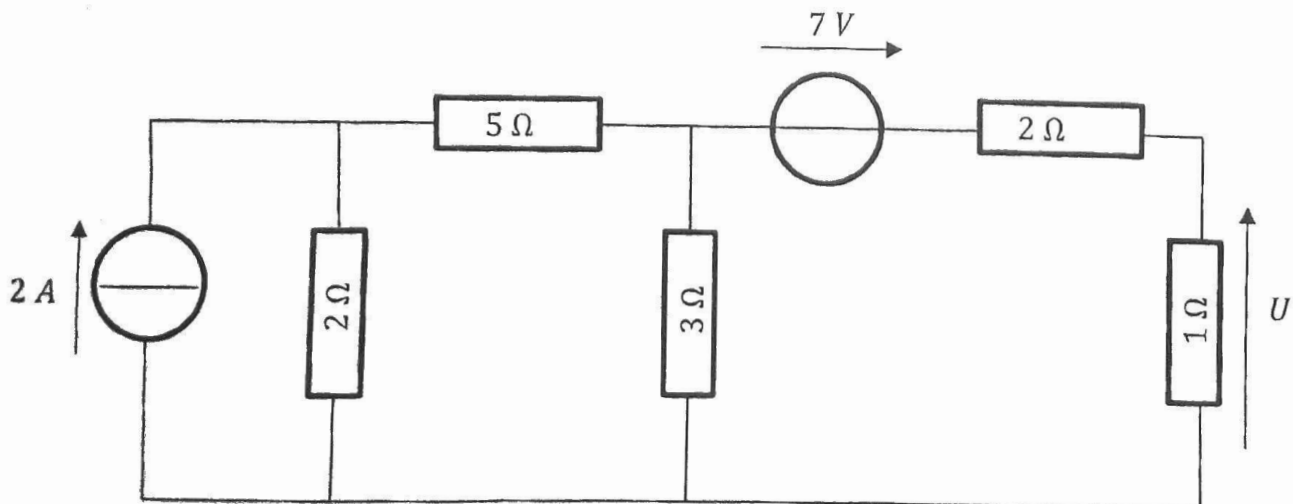
**TC 1 : Signaux physiques**

Durée : 30 min - Documents interdits - Calculatrices permises - Nb de pages : 1

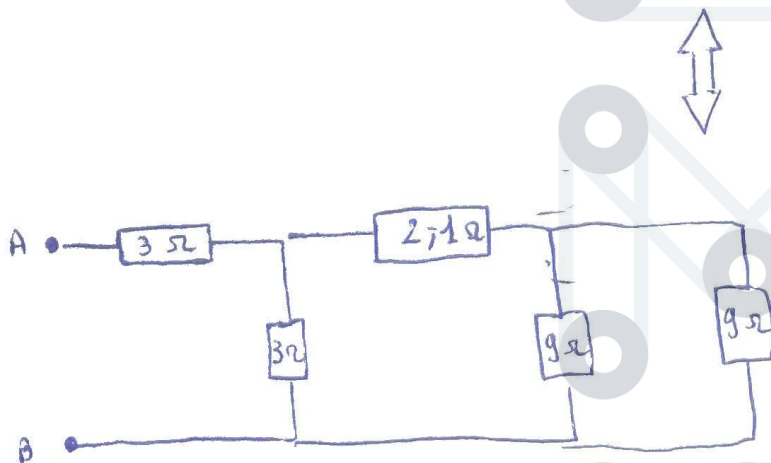
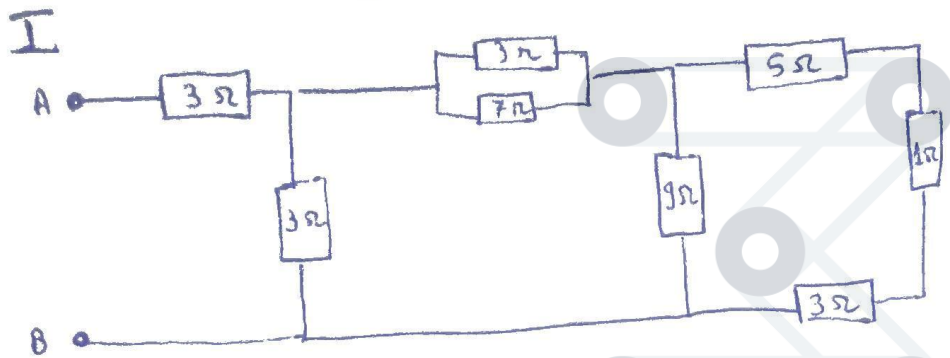
I. Calculer la valeur de la résistance équivalente entre les deux points A et B.



II. En utilisant l'équivalence entre les modèles de Thevenin et de Norton, calculer la valeur de la tension  $U$ .

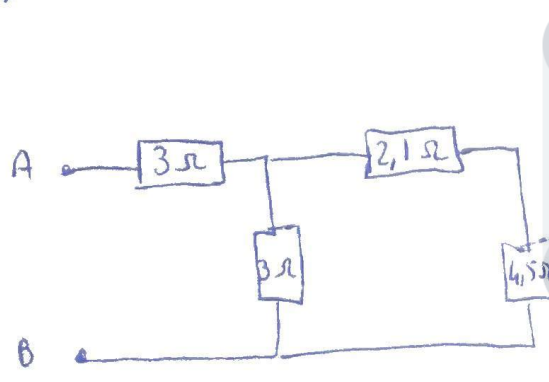


# TC 1 signaux : Connection

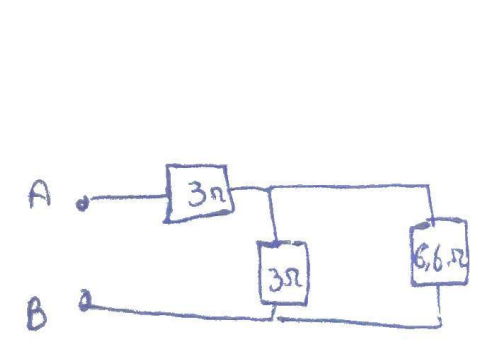


$$R_{eq1} = \frac{3 \times 7}{3+7} = \frac{21}{10} = 2,1$$

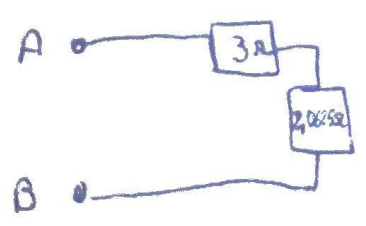
$$R_{eq2} = 3 + 1 + 5 = 9 \Omega$$



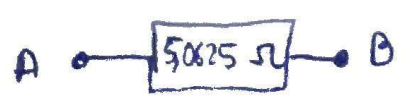
$$R_{eq3} = \frac{9 \times 9}{9+9} = \frac{81}{18} = 4,5$$



$$R_{eq4} = 2,1 + 4,5 = 6,6$$

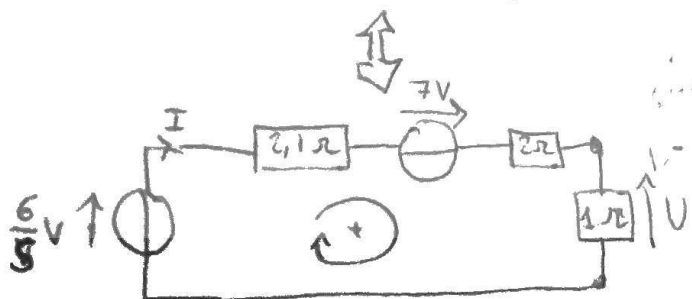
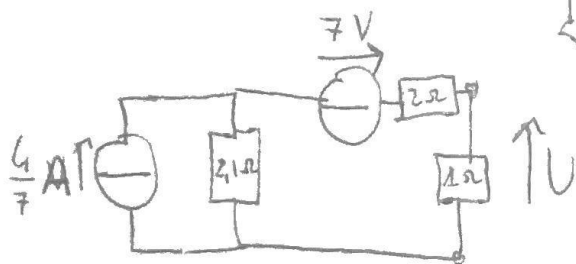
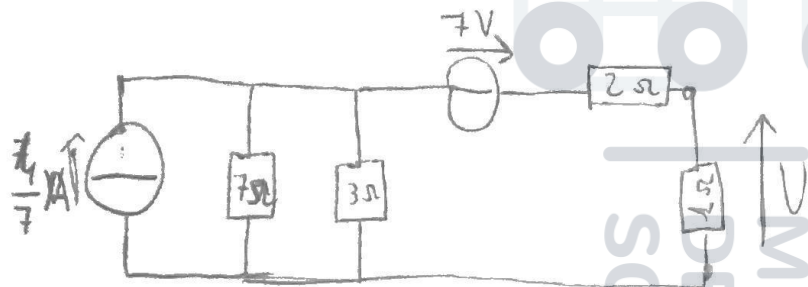
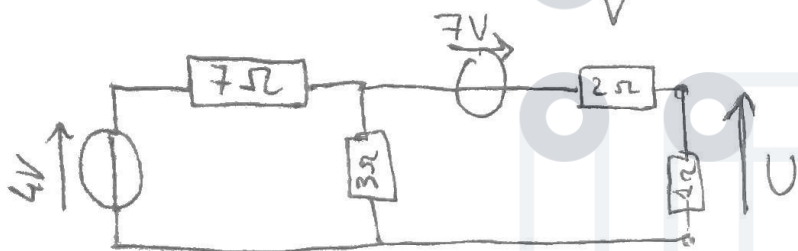
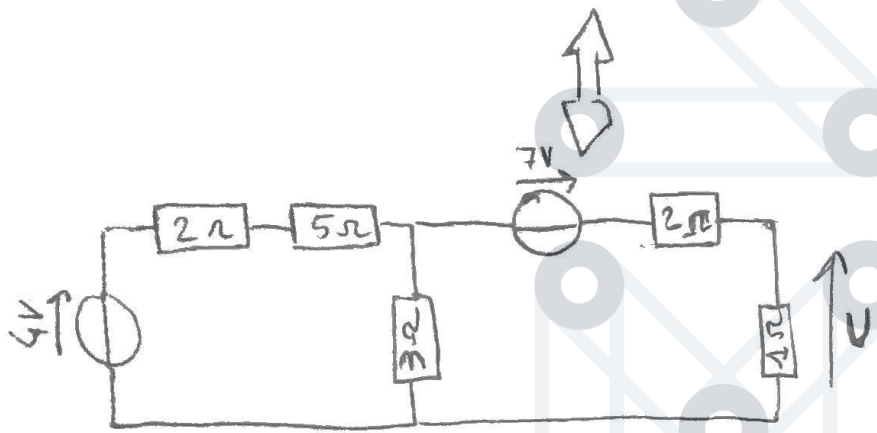
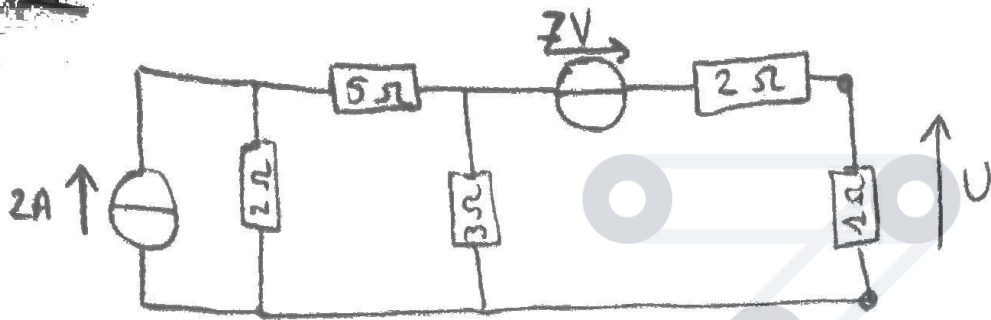


$$R_{eq5} = \frac{3 \times 6,6}{9,6} = 2,0625$$



$$R_{eq6} = 5,0625 \Omega$$

MOUVEMENT  
 DE L'ESIB  
 SOLIDAIRE



$$U = RI = 2 \times 2 = 4 \text{ V}$$

$$R_{eq2} = 2 + 5 = 7 \Omega$$

$$I = \frac{U}{R} = \frac{4}{7} \text{ A}$$

$$R_{eq2} = \frac{3 \times 7}{3 + 7} = \frac{21}{10} = 2,1$$

$$U = R \times I = 4 \times \frac{4}{7} = \frac{6}{5} \text{ V}$$

Loi des mailles:  $\frac{6}{5} - 2,1I + 7 - 2I - I = 0$

$$8,2 - 4I = 0$$

$$4I = 8,2 \Rightarrow I = 2,05 \text{ A}$$

$$U = R \times I = 2,05 \times 2 = 2,05 \text{ V}$$