

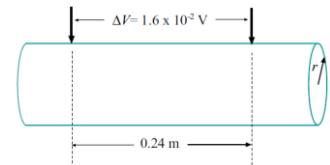
## Physics 02: Electricity and magnetism

University Year 2023-2024

### Series N° 03: ELECTROKINETICS

#### EXERCISE 01

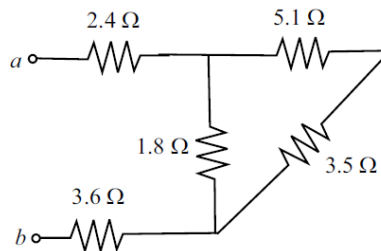
A cylindrical copper cable carries a current of 1200A. There is a potential difference of  $1.6 \times 10^{-2}$  V between two points on the cable that are 0.24 m apart.



What is the radius of the cable? Noted that  $\rho(\text{copper}) = 1.72 \times 10^{-8} \Omega \cdot m$ .

#### EXERCISE 02

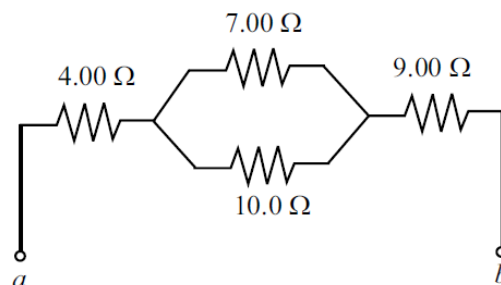
Find the equivalent resistance between points a and b.



#### EXERCISE 03

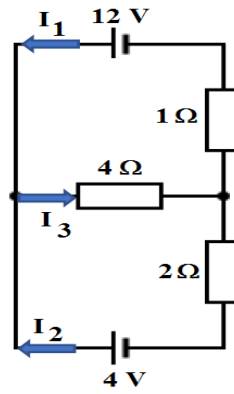
1- Find the equivalent resistance between points a and b in the figure.

2- Calculate the current in each resistor if a potential difference of 34.0V is applied between points a and b



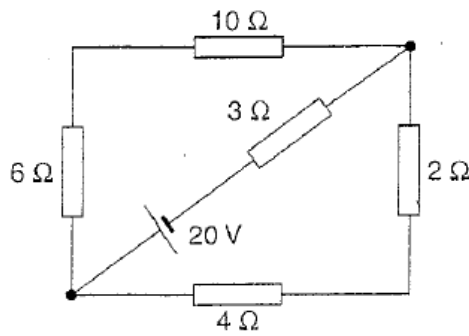
### EXERCISE 04

Find the currents  $I_1$ ,  $I_2$  and  $I_3$ .



### EXERCISE 05

Find the current flowing in t the network shown in circuit below.



### EXERCISE 06

Find the current through each branch.

