Field : Sciences of matter (SM) 1st year LMD Semester 02.



جامعة محمد بوضياف -المسيلة كلية العلوم ميدان : علوم المادة السنة الأولى ل م د - السداسي 02

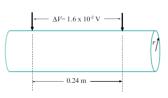
Physics 02: Electricity and magnetism

University Year 2023-2024

Series N° 03: ELECTROKINETICS

EXERCISE 01

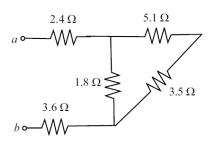
A cylindrical copper cable carries a current of 1200A. There is a potential difference of 1.6×10^{-2} V between two points on the cable that are 0.24 m apart.



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

EXERCISE 02

Find the equivalent resistance between points a and b.



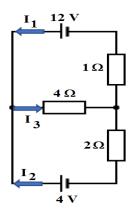
EXERCISE 03

- 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

$$\begin{array}{c}
7.00 \Omega \\
4.00 \Omega \\
\hline
\\
10.0 \Omega
\end{array}$$

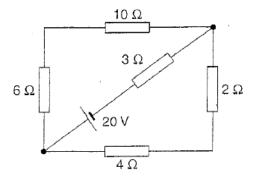
EXERCISE 04

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.

