1. A current of 240 mA flows in a wire for five minutes. Calculate th
a given point in that time.

2. When sodium chloride is dissolved in wat sociates into sod
Cl^-. Explain how the electrical cor tiv of a sodium chloride s
concentration of the soluti

3. Di vh her a piece of copper wire would be expected to beha
sch oratory.

4. (a) A 1.50 m long piece of nichrome wire has a resistivity of 1.10
of 5.62 Ω. Calculate the diameter of this wire.

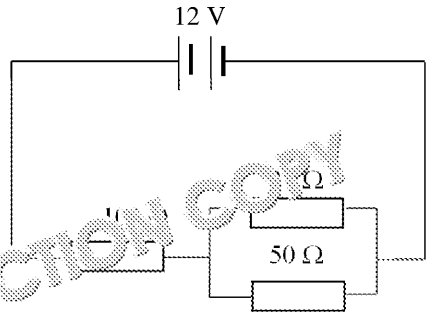
(b) A student carried out an investigation to find the resistivity of
material. The results are shown in the table.

length of wire / m	mean resistanc
0.10	0.44
0.20	0.81
0.30	1.35
0.40	1.83
0.50	2.22
0.60	2.64
0.70	3.02
0.80	3.55

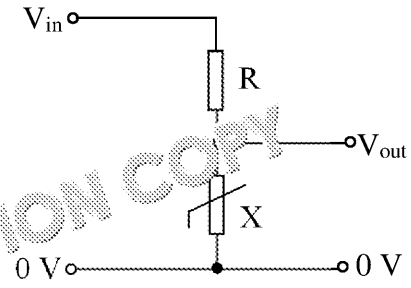
(i) Plot a graph of these results and draw a straight line of bes
horizontal axis.

(ii) The wire had a cross-sectional area of 4.7×10^{-7} m^2. Use
graph to determine the resistivity of this wire.

5. The diagram to the right shows a circuit containing three resistors.
the battery. Assume the battery has negligible internal resistance.

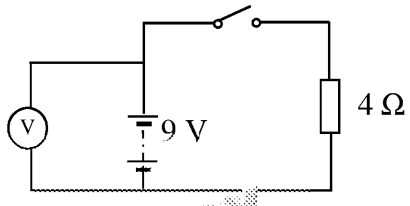


6. The circuit diagram below shows part of a sensor in a house. V_{in} is
At a particular temperature the ratio of R : X is 3 : 8.



(a) late V_{out} when the ratio of R : X is 3 : 8.
(b) Explain what happens to this ratio as the temperature decreases

7. The circuit below can be used to determine the internal resistance o
circuit has an e.m.f. of 9 V. When the switch is closed, the voltmet
Calculate the internal resistance of the battery.



Preview of Questions Ends Here