

DO NOT WRITE IN THIS AREA

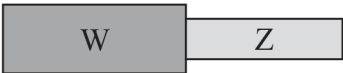
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WRITE IN THIS AREA

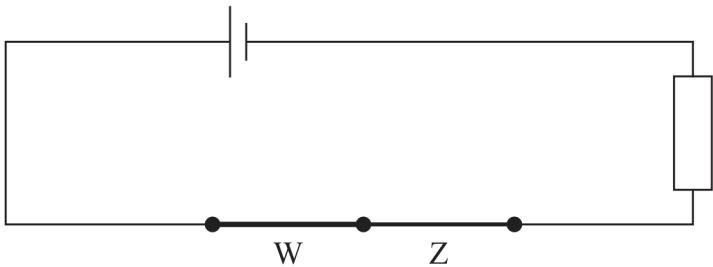
SECTION B

Answer ALL questions in the spaces provided.

11 Two copper wires, W and Z, are joined as shown. Wire W has twice the diameter of wire Z.



W and Z are connected in series with a cell and resistor, as shown.



(a) State the purpose of the resistor in this circuit. (1)

.....

.....

(b) The current I in a conductor is given by the formula

$$I = nqvA$$

Complete the following table, which shows ratios of quantities for wires W and Z.
The first row has been completed for you.

(4)

Ratio	Value	Reason
$\frac{n_w}{n_z}$	1	Both wires are made of the same material
$\frac{I_w}{I_z}$		
$\frac{v_w}{v_z}$		