Oxford Cambridge and RSA

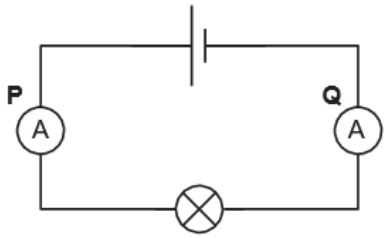
GCSE Physics B (Twenty First Century Science)

J259/01 Breadth in Physics (Foundation Tier)

Question Set 15

Multiple Choice Questions

1 Amaya and Li each build the circuit shown in the diagram.



(a) Which **two** parts of the circuit **must** be present for a current to flow?
Tick (✓) **two** boxes.

The ammeters, to measure the current	
The cell, to provide a potential difference	✓
The lamp, to provide resistance	
The wires, to make a complete circuit	✓

[1]

(b) Amaya measured the current in the lamp as 1.5A.
The potential difference across the lamp is 3.3V.

Calculate the resistance of the lamp.

Use the equation: resistance = potential difference ÷ current

$R = \frac{V}{I} = \frac{3.3}{1.5} = 2.2\Omega$

[2]

Resistance = ... 2.2 .....Ω

(c) Amaya and Li compare their results.
The table shows the readings on the ammeters **P** and **Q**.

	Reading on ammeter P (A)	Reading on ammeter Q (A)
Amaya	1.5	1.5
Li	1.4	1.5

(i) Who got the expected results?

Amaya	✓
Li	

Explain your answer. **[2]**

Current should be the same everywhere in a series circuit

(ii) Amaya thinks her results are different to Li's because something is wrong with the ammeters.

Suggest how Amaya could check if there is something wrong with the ammeters. **[1]**

Use different ammeters and see if you get the same results

Total Marks for Question Set 15: 6