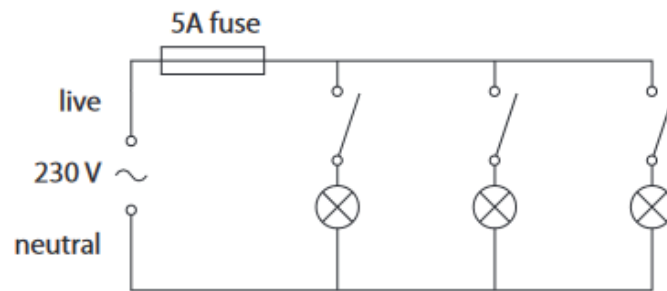


Eduqas Physics GCSE
Topic 7.4: Domestic electricity
Questions by topic

1.

The diagram shows the lighting circuit in an office.



(a) (i) State two advantages of connecting lamps in parallel rather than in series.

(2)

1

2

(ii) What is the purpose of the 5 A fuse?

(1)

.....

(iii) Explain how a fuse works.

(3)

.....

.....

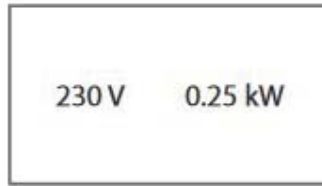
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(b) A label on one of the office computers includes this information.



(i) State the equation linking power, current and voltage.

(1)

(ii) Use the information on the label to calculate the current in the computer.

(3)

current = A

(iii) Fuses are available with values of 1 A, 3 A, 10 A and 13 A.

Suggest the most suitable fuse value for the computer.

Give a reason for your answer.

(2)

fuse value A

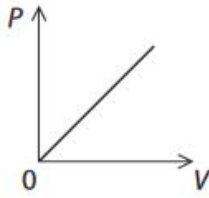
reason

.....

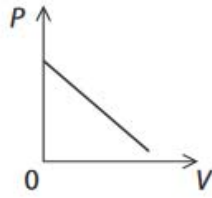
(c) The graphs show some ways that power (P) can vary with voltage (V).

Which is the correct graph for a fixed resistor?

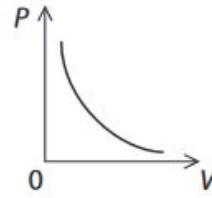
(1)



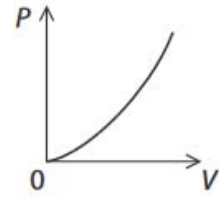
A



B



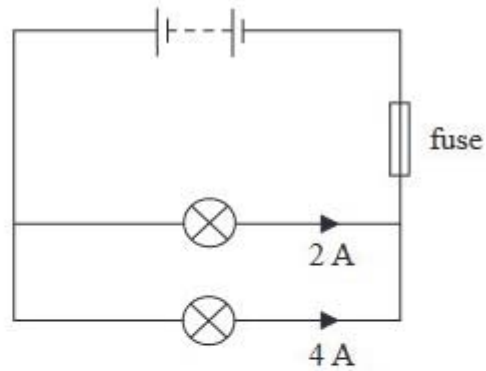
C



D

2.

The diagram shows the circuit for lighting two lamps.
The circuit contains a fuse.



Which of these would be the best value for the fuse?

- A 1 A
- B 3 A
- C 5 A
- D 8 A

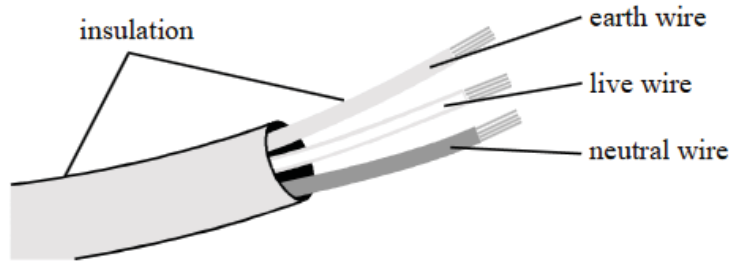
$$\text{power} = \text{current} \times \text{voltage}$$

The power used in the whole circuit is 36 W.
The voltage across the lamps is about

- A 6 V
- B 9 V
- C 18 V
- D 216 V

3.

The diagram shows the flexible cable used to connect a kettle to the mains supply.



(a) (i) Draw one line to link the name of each part of the cable to its description.

Earth	a wire used for safety
insulation	supplies energy to the kettle
live	does not allow current to pass in it

(2)

(ii) Explain why the wires are described as being “double insulated”.

.....

(1)

(b) Which wire is covered with brown insulation?

.....

(1)

(c) The table gives data about three different kettles.

kettle	operating voltage	current (A)	power (W)
P	12 V d.c.	5.0	60
Q	120 V a.c.	8.5	1020
R	240 V a.c.	9.2	2208

(i) Which kettle is designed to operate from a battery?

.....

Explain how you can tell.

.....

(1)

(ii) Which kettle needs the thickest wire to connect it to the electricity supply?

.....

Give the reason for your answer.

.....

.....

(2)

(iii) Which kettle should be used with a 7 A fuse?

.....

Give the reason for your answer.

.....

.....

(2)

(Total 9 marks)

4.

(i) Describe the difference between a.c. and d.c.

.....

.....

.....

.....

(2)