



Coaching in:

PHYSICS & CHEMISTRY SCIENCE

yrs 11 – 12 yrs 7 – 10

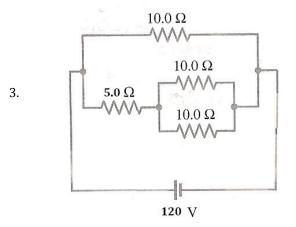
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ELECTRICAL ENERGY IN THE HOME QUIZ 3

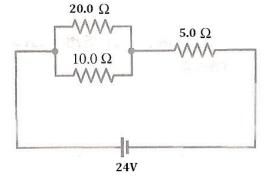
- 1. A conductor has a resistance of 20Ω . Given that its length is doubled and the radius of its cross-sectional area is also doubled, what is its new resistance? (3 marks)
- a) Calculate the total resistance of the circuit (2 marks)

b) Calculate the current and hence the voltage drop across the 10Ω resistor which is connected in parallel. (3 marks)

2. A current of 3A flows for a period of 1.5seconds. How many coulombs of charge and hence how many electrons pass a given point in this time? (2 marks)



4.



Calculate:

a) The total resistance and the total current (2 marks)

b)			
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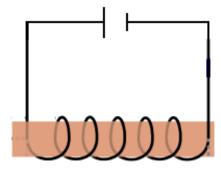
b) The current and the voltage drop of the 5Ω resistor (2 marks)

c) The current and voltage drop of the 10Ω resistor (2 marks)

6. Two resistors R1=4 Ω and R2=3 Ω are connected in parallel t a 12V power supply. What is the power generated by the power supply and the power dissipated in each resistor? (3 marks)

d) The current and the voltage drop of the 20Ω resistor (2 marks)

5. Sketch the magnetic field surrounding the following: (2 marks each)a)



7. How much energy (in kWh) does a 5kW heater use in 6 hours? (1 mark)