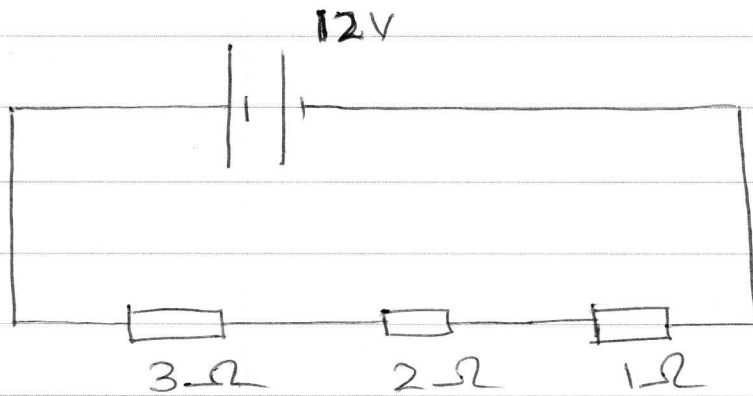


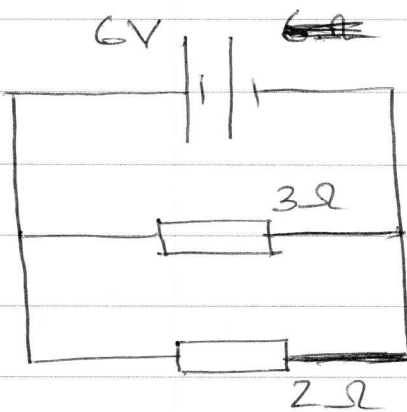
Simple Circuit Analysis -1

①



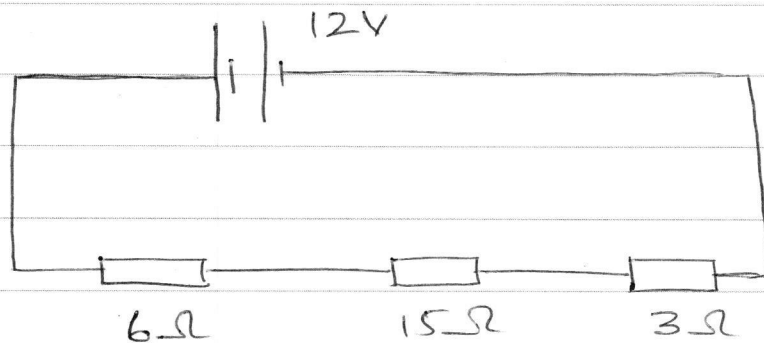
Work out the current flowing through the 3Ω resistor.

②



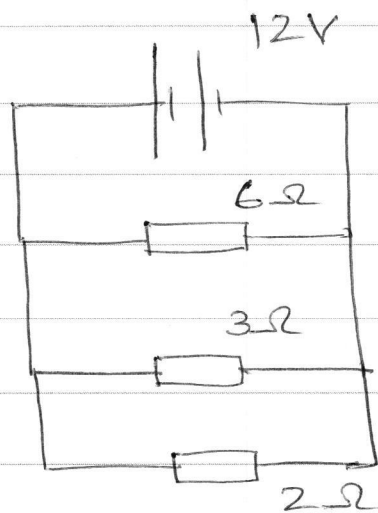
Work out the current flowing through the 3Ω resistor.

③



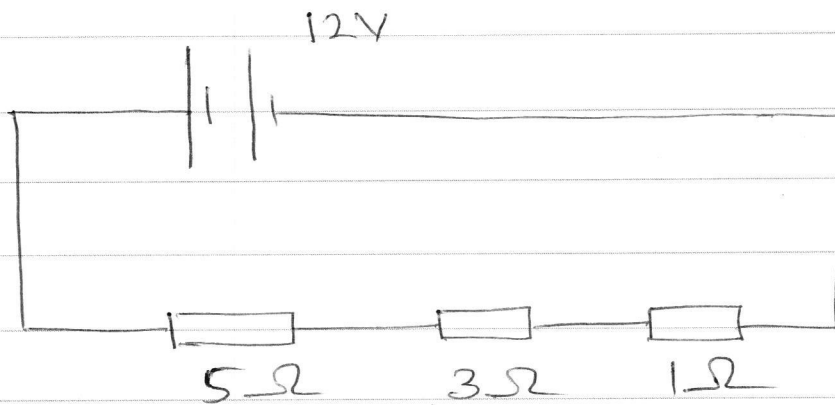
calculate the voltage across the 15Ω resistor.

④



- (a) What is the potential difference across the 3Ω resistor?
- (b) Work out the current flowing through the 3Ω resistor.
- (c) Work out the current flowing through the 6Ω resistor.
- (d) Work out the total resistance in the circuit.
- (e) Calculate the current supplied by the battery.

5

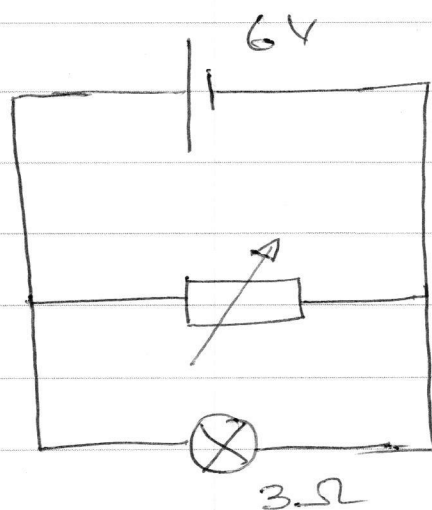


(a) Work out the current flowing through the 3Ω resistor.

(b) Work out the power dissipated in ~~the~~ the 5Ω resistor.

(c) Work out the power supplied by the battery and hence calculate the amount of energy supplied by the battery in 5 minutes.

6



(a) ~~When the variable~~
The variable resistor is adjusted

to have resistance of $12\ \Omega$.

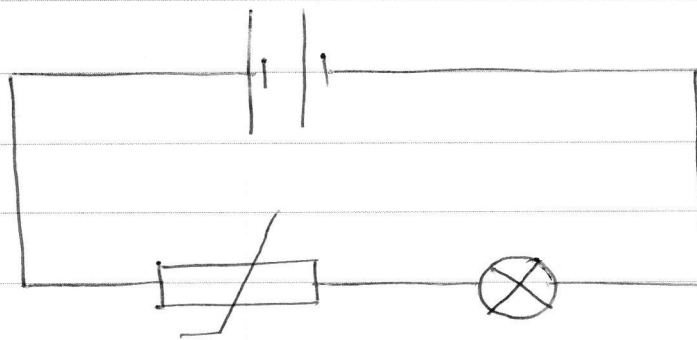
(a) Work out the power of the battery.

(b) Work out the power dissipated in the lamp.

~~(c)~~ The resistance of the variable resistor is now reduced.

(c) State and explain what happens to the brightness of the lamp.

7



The circuit given above shows a thermistor connected in series with a lamp to a battery. The room temperature is 20°C .

When the resistance of the thermistor is $5\ \Omega$, the current supplied by the battery is 3A and the power dissipated in the

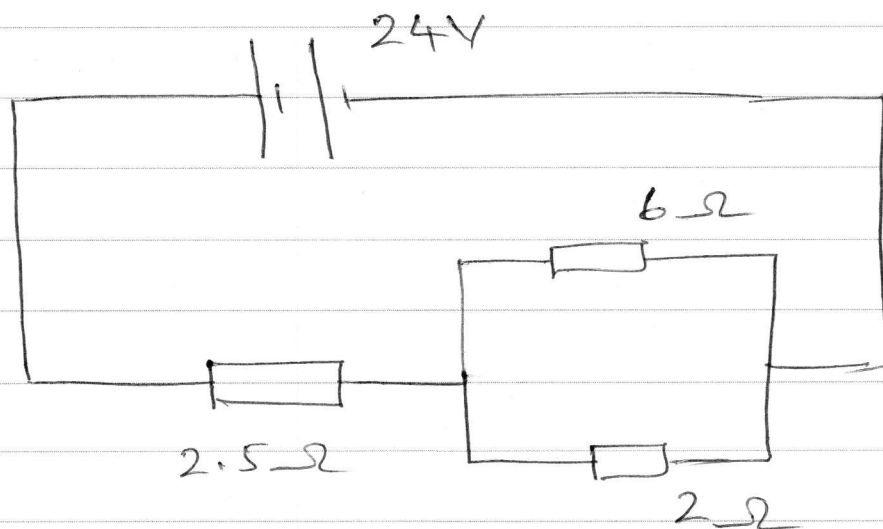
lamp is 27W.

- (a) Work out the voltage of the battery.

After a while, the room temperature increases to 30°C . The resistance of the lamp remains the same.

- (b) State and explain what happens to the brightness of the lamp.

8



- (a) Calculate the current supplied by the battery.

- (b) Work out the voltage across the ~~the~~ $6\ \Omega$ resistance.
the $6\ \Omega$ resistor.

- (c) Work out the current through the $6\ \Omega$ resistor.
- (d) Work out the current through the $2\ \Omega$ resistor.
- (e) Work out the power dissipated in the $2.5\ \Omega$ resistor.
- (f) Work out the energy supplied by the battery in 2 minutes.