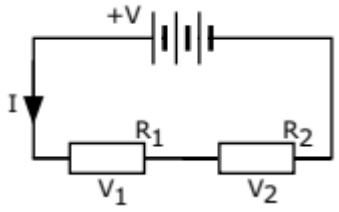
GCSE Electricity Recap

Easy (hopefully!)

1. What is the definition of electric current?
2. State the equation that links current, voltage and resistance.
3. A student measures a voltage across a component of 5V and a current of 2A. What is the power dissipated?
4. Sketch the current-voltage graph for a filament lamp.
5. What is the circuit symbol for a LED?

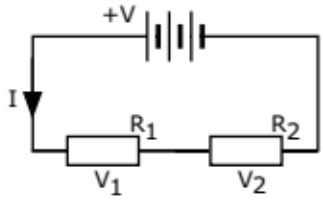
Getting harder

1. What is the definition of voltage? (everyone always forgets this one!)
2. What is the unit of charge?
3. State Ohm's Law (not the same as #2!)
4. Sketch the current-voltage graph for two metal wires with resistances R1 and R2 where R1>R2.
5. In the circuit below, if the battery is 12V and $R_1=R_2$ what are the values of V_1 and V_2?

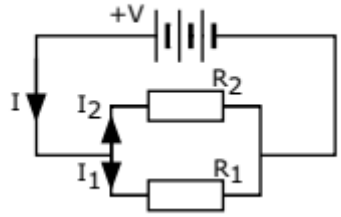


A bit difficult?

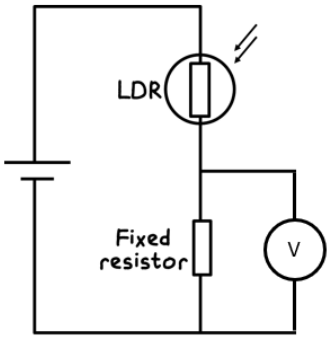
1. In the circuit below, if the battery produces 12V, R_1= 1 Ω and R_2 = 5 Ω what are the values of V_1 and V_2?



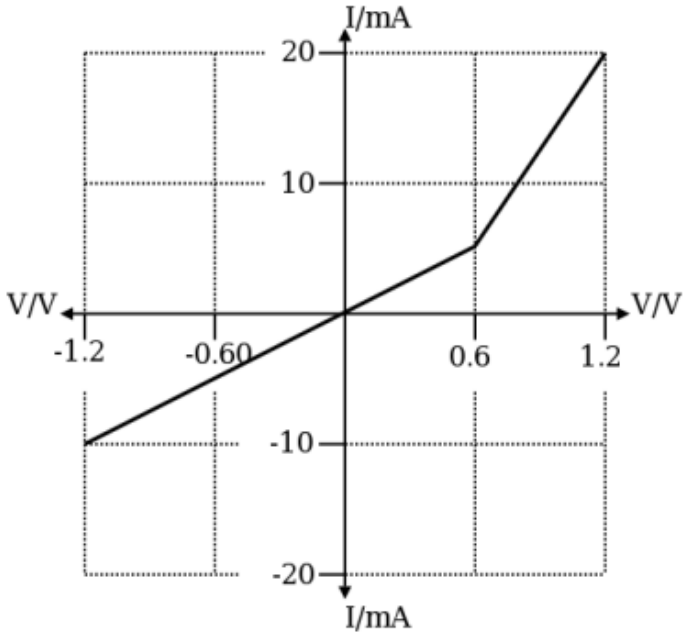
2. In the circuit below, if the battery is 6V, R_1= 2 Ω and R_2 = 3 Ω what are the values of I, I_1 and I_2?



3. The circuit below shows a resistor and an light dependent resistor in series. What will happen to the voltage across the resistor when it gets darker? Explain your answer.



4. The graph shows the I-V characteristics for a circuit containing a diode and two resistors. Draw a circuit to show how these components would need to be connected in order to produce this graph.



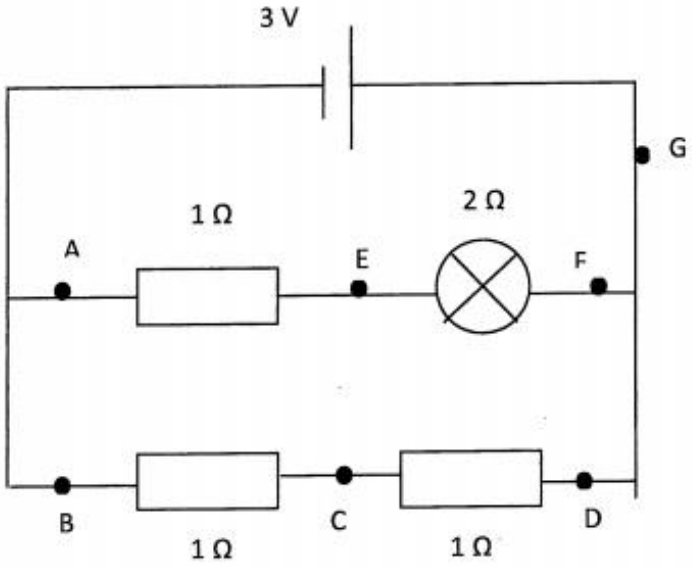
Extension

In the circuit below, what would the potential difference be if measured by a voltmeter with its terminals connected at the following points:

a. AF
b. BC
c. FD
d. AC
e. EC

What is the current through each of the points:

a. A
b. E
c. C
d. G



What is the effective or total resistance of the whole circuit?