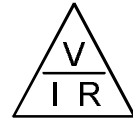


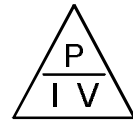
# OHMS LAW AND POWER

You will need to learn to use these equations:

**Voltage = Current x Resistance**    or    **V = IR**

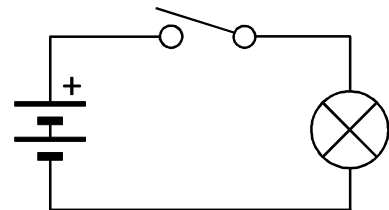


**Power = Current x Voltage**    or    **P = IV**



Now try these questions - show your working out:

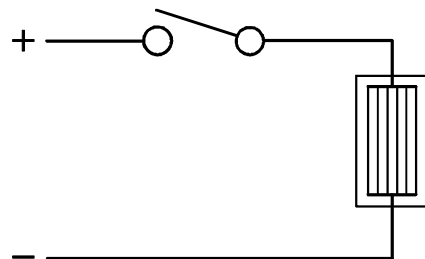
**Question 1** A torch is operated by a 3v battery. When the switch is closed the bulb draws 0.075 Amps from the battery. What is the resistance of the bulb?



**Question 2** A toy car with an electric motor draws 0.25 Amps from the supply. It has an effective resistance of 60 ohms. What is the voltage of the supply?

**Question 3** When starting a motor car, a current of 80 Amps is drawn from the 12 volt car battery. How much Power is dissipated in the starter motor?

**Question 4** To defrost the rear windscreen of a motor car, a heating element has an electrical current flowing through it. This is connected to the 12 volt battery. The power dissipated through the heating element is 36 watts.



- a) What is the current flowing through the element?
- b) What is the resistance of the heating element?

**Question 5** A solenoid for a pinball table has a rating of 45 watts and a resistance of 5 ohms.

- a) What is the current flowing through the solenoid?
- b) What is the correct voltage to supply to the solenoid?