

GCSE Physics Ramped Power Calculations Using $P = IV$

These questions increase in difficulty and are based on real-life electrical devices. Use the equation Power (W) = Voltage (V) \times Current (A).

1. A phone charger operates at 5 V and transfers a current of 2 A. What is its power?
2. A bedside lamp uses a 12 V supply and draws a current of 0.5 A. Calculate its power.
3. A laptop charger provides 20 V and a current of 3 A. What power does it supply?
4. An electric fan operates from a 230 V mains supply and draws 0.4 A. Calculate its power.
5. A microwave oven uses a current of 5 A from a 230 V supply. What is its power rating?
6. A kettle draws 10 A from a 230 V mains supply. Calculate the power of the kettle.
7. An electric heater has a power rating of 1840 W and operates from a 230 V supply. Calculate the current it draws.
8. A hairdryer draws a current of 8 A and has a power rating of 1840 W. Calculate the voltage it operates at.
9. An electric shower has a power rating of 9200 W and is connected to a 230 V supply. Calculate the current flowing through it.
10. A rapid electric vehicle charger transfers a current of 150 A at a voltage of 400 V. Calculate the power supplied to the vehicle in kilowatts (kW).