30 The current I in a conductor is given by the equation shown.

$$I = Anvq$$

What does the letter n represent in this equation?

A charge carried per charge carrier

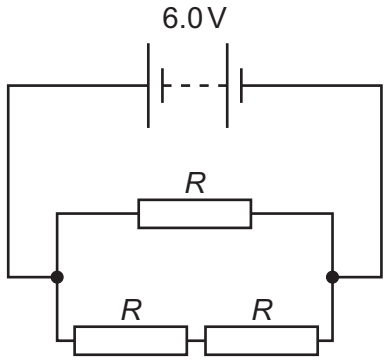
B number of charge carriers per unit area

C number of charge carriers per unit volume

D total mass of charge carriers per unit volume

31 In the circuit shown, the battery has an electromotive force (e.m.f.) of 6.0 V and negligible internal resistance.

The three resistors each have resistance R.



The total power dissipated in the resistor network is 24 W.

What is the value of R?

A 0.50 Ω **B** 1.0 Ω **C** 1.5 Ω **D** 2.3 Ω

32 Which graph could show how the resistance R of a filament lamp varies with the applied potential difference (p.d.) V, as V is increased to the normal operating p.d.?