

- 33** Two wires P and Q made of the same material and of the same length are connected in parallel to the same voltage supply. Wire P has diameter 2 mm and wire Q has diameter 1 mm.

What is the ratio  $\frac{\text{current in P}}{\text{current in Q}}$  ?

**A**  $\frac{1}{4}$

**B**  $\frac{1}{2}$

**C**  $\frac{2}{1}$

**D**  $\frac{4}{1}$

- 34** A cell has an electromotive force (e.m.f.) of 6 V and internal resistance  $r$ . An external resistor