

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 6V and internal resistance  $R$ . An external resistor