

34 A power cable X has resistance  $R$  and carries current  $I$ .

A second cable Y has resistance  $2R$  and carries current  $\frac{1}{2}I$ .

What is the ratio  $\frac{\text{power dissipated in Y}}{\text{power dissipated in X}}$ ?

A  $\frac{1}{4}$

B  $\frac{1}{2}$

C 2

D 4

**Space for working**