

32 A power cable X has a resistance R and carries current I .

A second cable Y has a 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

33 A total charge of 100 C flows through a 12W light bulb in a time of 50 s.