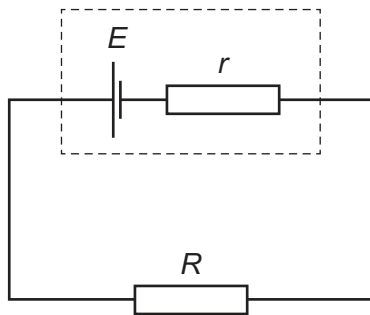31 A cell of electromotive force (e.m.f.) E and internal resistance r is connected to an external resistor of resistance R, as shown.

What is the power dissipated in the external resistor?

A $\dfrac{E^2(R+r)}{R^2}$ **B** $\dfrac{E^2R}{(R+r)^2}$ **C** $\dfrac{E^2(R+r)}{r^2}$ **D** $\dfrac{E^2r}{(R+r)^2}$