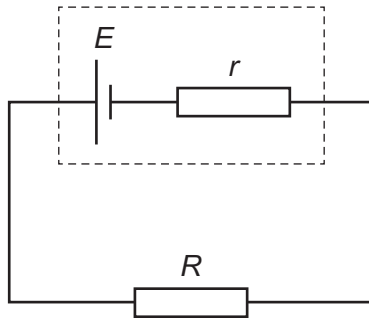**36** A cell of electromotive force (e.m.f.) E and internal resistance r is connected to a resistor of resistance R.

A maximum power P can be dissipated by the resistor without overheating.

What is the maximum value of E if the resistor does not overheat?

A $R\sqrt{\dfrac{P}{(R-r)}}$ **B** $R\sqrt{\dfrac{P}{(R+r)}}$ **C** $(R-r)\sqrt{\dfrac{P}{R}}$ **D** $(R+r)\sqrt{\dfrac{P}{R}}$