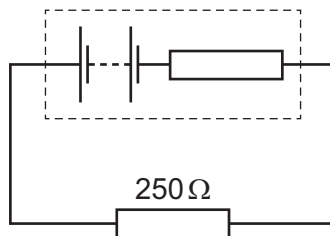


- 31** A battery, with a constant internal resistance, is connected to a resistor of resistance $250\ \Omega$, as shown.



The current in the resistor is $40\ \text{mA}$ for a time of $60\ \text{s}$. During this time $6.0\ \text{J}$ of energy is lost in the internal resistance.

What are the energy supplied to the external resistor during the $60\ \text{s}$ and the e.m.f. of the battery?

	energy / J	e.m.f. / V
A	2.4	2.4
B	2.4	7.5
C	24	10.0
D	24	12.5

Space for working