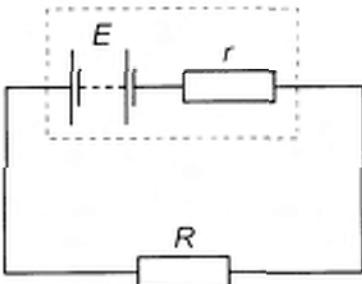


- 25 A battery of electromotive force (e.m.f.)  $E$  and internal resistance  $r$  is connected in series with a resistor of resistance  $R$  as shown.



The battery transfers energy  $W$  at a constant rate in driving charge  $Q$  round the circuit in time  $t$ .

What is the e.m.f.  $E$  of the cell and the potential difference (p.d.)  $V$  across the external resistor?

	e.m.f. $E$	p.d. $V$
A	$\frac{W}{Q}$	$RQ$
B	$\frac{W}{Q}$	$R \times \frac{Q}{t}$
C	$(r + R) \times \frac{Q}{t}$	$\frac{W}{Q}$
D	$(r + R) \times \frac{W}{t}$	$\frac{W}{Q}$