

**33** The potential difference across a resistor is 12 V. The current in the resistor is 2.0 A.

A charge of 4.0 C passes through the resistor.

What is the energy transferred in the resistor and the time taken for the charge to pass through the resistor?

	energy / J	time / s
<b>A</b>	3.0	2.0
<b>B</b>	3.0	8.0
<b>C</b>	48	2.0
<b>D</b>	48	8.0

**34** A coil contains  $N$  turns of insulated copper wire wound on to a cylindrical iron core of diameter  $D$