

Question number	Answer	Notes	Marks
9 (a) (i)	Current – 2(.0) (A); Voltage – 12(.0) (V);		1 1
(ii)	Using $E = V \times I \times t$ (formula given on sheet) Time conversion; Substitution; Answer; e.g. $20 \text{ minutes} = 20 \times 60 \text{ seconds} = 1200 \text{ seconds}$ $E = 12 \times 2 \times 1200$ 28 800 (J)	ecf from a i  If time conversion not done / incorrect then ALLOW $E = V \times I \times 20$ with subs of V and I for 1 mark  ALTERNATIVE APPROACH (using power) Calculate power of heater = $V \times I$ ; Calculate $30000 \div (20 \times 60)$ ; to show comparability;	1 1 1