

Q1.

Question number	Answer	Additional guidance	Mark
	substitution into $P = V \times I$ (1) $2600 = 230 \times I$ rearrangement (1) $I = P \div V$ evaluation (1) 11 (A)	Substitution and re-arrangement in either order $I = 2600 \div 230$ for 2 marks allow answers that round to 11 award full marks for correct answer without working allow $I = 2.6 \div 230$ for 1 mark allow 0.011 (A) for 2 marks max if no other marks scored, award 1 mark for $2.6 \text{ kW} = 2600 \text{ W}$	(3)

Q2.

Question number	Answer	Additional guidance	Mark
i	substitution (1) $(I = \frac{P}{V} = \frac{1.9 \times 10^3}{230}) (1)$ evaluation (1) 8.3 (A)	8.3 / 8.26 (A) award full marks for correct answer without working award one mark for $8.26 \times 10^{-3} / 0.0083$	(2) AO2

Q3.

Question	Answer	Additional guidance	Mark
	substitution (1) $P = 9.0 \times 230$ evaluation (1) 2100 (W)	allow values that round to 2100 (W) e.g. 2070 (W) award full marks for the correct answer without working	(2) AO2.1

Q4.

Question Number:	Answer	Additional guidance	Mark
(i)	substitution (1) $(P) = 0.12 \times 0.24$ evaluation (1) 0.029 (W)	accept 0.03 (W), 0.0288(W) 0.028 (W) power of ten error is awarded 1 mark award full marks for the correct answer without working	(2) AO 2 1

Question Number:	Answer	Additional guidance	Mark
(ii)	chooses /uses (1) $E = V \times I \times t$ evaluation (1) 1.4 (J)	$E = 0.3 \times 0.13 \times 35$ accept an answer that rounds to 1.4 (J) e.g. 1.365(J) a maximum of 1 mark is awarded in the case of a power of ten error award full marks for the correct answer without working	(2) AO 2 1

Question Number:	Answer	Additional guidance	Mark
(iii)	substitution (1) $(Q) = 0.13 \times 35$ evaluation (1) 4.6 (C)	accept an answer that rounds to 4.6 e.g. 4.55 or in this context allow 4.5 power of ten error is awarded 1 mark award full marks for the correct answer without working	(2) AO 2 1

Q5.

Question number	Answer	Mark
(i)	C	(1)

Q6.

Question Number	Answer	Acceptable answers	Mark
(i)	Substitution (1) $2900 = 230 \times \text{current}$ Transposition (1) $\frac{2900}{230}$ Evaluation (1) 13 (A)	Award full marks for correct answer with no working Allow substitution and transposition in either order Ignore powers of ten errors until evaluation Allow numbers which round up to 13	(3)

Q7.

Question number	Answer	Additional guidance	Mark
(ii)	recall and substitution (1) (power =) 12×4.8 evaluation (1) (power =) 58 (W)	voltmeter connected in parallel with battery allow values that round to 58 e.g. 57.6 award full marks for the correct answer without working	(2) AO2

Q8.

Question number	Answer	Additional guidance	Mark
(iii)	recall and substitution (1) $(P) = 2.1 \times 0.041$ evaluation (1) $(P =) 0.086$ (W)	allow any value that rounds to 0.086; e.g. 0.0861 (W) 0.09 (W) award full marks for the correct answer without working allow POT error for 1 mark	(2)