

Question number	Answer	Notes	Marks
1 a	A (Joule);		1
b	The cell converts <b>Chemical</b> energy into <b>Electrical</b> energy;;  The lamp converts this energy into <b>Light</b> and <b>Thermal</b> energy (BOTH needed);	either order for the second sentence	2  1
c (i)	14(J);		1
(ii)	Efficiency = $\frac{\text{useful energy output}}{\text{(total) energy input}}$ ;	allow • $\times 100(\%)$	1
(iii)	Substitution; Evaluation; e.g. (efficiency =) $\frac{36}{50}$  (=) 0.72	do not allow • inverted substitution e.g. $50/36 = 1.39$  Allow • 72% • correct answer without working (bald answer) for both marks	2

(Total for Question 1 = 8 marks)