

Question number	Answer	Notes	Marks
10 (a)	$236 - (97 + 135);$ $x = 4;$	answer of 4 scores 2	2
(b)	(fission) releases neutrons; neutrons can be captured by other uranium nuclei; (these nuclei) then undergo fission;		3
(c)	evidence of halving of 72 (kBq); evidence of four half-lives required; e.g. count rate after 4 half-lives is 4.5 (kBq) evidence that four half-lives is equivalent to 60 million years;		3
(d)	Any FIVE from: MP1 Idea of strong containers; MP2 idea that containers can't rust; MP3 idea that rust-proof containers expensive/difficult to manufacture; MP4 reference to security of waste site; MP5 reference to dilution in sea water; MP6 reference to leakage into water table;	accept idea of a location that prevents rust accept low earthquake risk	5

(Total for Question 10 = 13 marks)