Question	Scheme	Marks	AOs
8 (a)	Total amount $= \dfrac{2100(1-(1.012)^{14})}{1-1.012}$ **or** $\dfrac{2100((1.012)^{14}-1)}{1.012-1}$	M1	3.1b
	$= 31806.9948\ldots = 31800$ (tonnes) (3 sf)	A1	1.1b
		(2)	
	Total Cost $= 5.15(2000(14)) + 6.45(31806.9948\ldots - (2000)(14))$	M1	3.1b
		M1	1.1b
	$= 5.15(28000) + 6.45(3806.9948\ldots) = 144200 + 24555.116\ldots$		
	$= 168755.116\ldots =$ £169000 (nearest £1000)	A1	3.2a
		(3)	
			(5 marks)

Question 8 Notes:

(a)

M1: Attempts to apply the correct geometric summation formula with either $n = 13$ or $n = 14$, $a = 2100$ and $r = 1.012$ (Condone $r = 1.12$)

A1: Correct answer of 31800 (tonnes)

(b)

M1: Fully correct method to find the total cost

M1: For either

- $5.15(2000(14))$ $\{= 144200\}$
- $6.45("31806.9948\ldots" - (2000)(14))$ $\{= 24555.116\ldots\}$
- $5.15(2000(13))$ $\{= 133900\}$
- $6.45("29354.73794\ldots" - (2000)(13))$ $\{= 21638.059\ldots\}$

A1: Correct answer of £169000

Note: Using rounded answer in part (a) gives 168710 which becomes £169000 (nearest £1000)