Question			Answer	Marks	AO	Guidance
3			$n = 2k$ [where k is an integer]			
			$n^3 + 4 = (2k)^3 + 4$	**M1**	**2.1**	Uses the evenness of n in an algebraic form. Allow if they state that the cube of an even number is a multiple of 8
			$= 4\left(2k^3 + 1\right)$			
			Which is a multiple of 4	**A1**	**2.1**	Also allow for a factorised expression, or division by 4. Also allow an argument that each term of the sum is a multiple of 4
			But $\left(2k^3 + 1\right)$ is always odd **so not a multiple of 8**	**A1**	**2.4**	Any clear argument leading to the statement that the expression is not a multiple of 8 www (See appendix for exemplars)
				[3]		

Exemplar responses for Q3 last mark

Response	Mark
$8(k^3+\frac{1}{2})$ so not a multiple of 8	**A1**
$8(k^3+\frac{1}{2})$ so 8 is not a factor	**A0**
$8k^3+4$ so 8 is not a factor so not a multiple of 8	**A1**
$8k^3+4$ so 8 is not a factor	**A0**
$8k^3+4$ cannot take a factor of 8 so it's not a multiple of 8	**A1**
$8k^3+4$ 4 is not a multiple of 8, so not a multiple of 8	**A1**
$8k^3$ is a multiple of 4 and 8 but +4 means multiple of 4 and not 8	**A1**
$\frac{8k^3+4}{8}=k^3+\frac{1}{2}$ so not a multiple of 8	**A1**