Question	Answer	Marks	Partial Marks
12(a)	$v = -6t + c$ soi	**B1**	
	$v = -6t + 18$	**M1**	
	$-6t + 18 = 0$, $t = 3$	**A1**	
12(b)	$s = \frac{-6t^2}{2} + 18t$ soi	**B1**	
	$\left(-3(3)^2 + 18(3)\right) - \left(-3(2)^2 + 18(2)\right)$	**M1**	**FT** *their s* provided it is from an attempt to integrate
	3 (metres)	**A1**	Not from wrong working
13(a)(i)	$a + ar = 10$ soi	**B1**	
	$ar^2 = 9$ soi	**B1**	
	Solves *their* equations	**M1**	
	$r = -\frac{3}{5}, \frac{3}{2}$ and $a = 25, 4$	**A2**	**A1** for either $r = -\frac{3}{5}, \frac{3}{2}$ or $a = 25, 4$ or for $r = -\frac{3}{5}$ **and** $a = 25$ or for $r = \frac{3}{2}$ **and** $a = 4$
13(a)(ii)	$\frac{125}{8}$ or 15.625 or $15\frac{5}{8}$ only	**B1**	

Question	Answer	Marks	Partial Marks
13(b)	$d = 8$	**B1**	
	$[S_{200} - S_{99} =]$ $\frac{200}{2}\{2(-10)+199(their 8)\} -$ $\frac{99}{2}\{2(-10)+98(their 8)\}$ oe	**M2**	**M1** for either sum correct or correct **FT** *their d*
	119382 cao	**A1**	
	Alternative method 1		
	$d = 8$	**(B1**	
	$u_{100} = -10 + 99\times 8 [= 782]$ and $u_{200} = -10 + 199\times 8 [= 1582]$ and $n = 101$	**M1**	
	$\frac{1}{2}(101)(782+1582)$	**M1**	
	119382 cao	**A1)**	
	Alternative method 2		
	$d = 8$	**(B1**	
	$u_{100} = -10 + 99\times 8 [= 782]$ and $n = 101$	**M1**	
	$\frac{1}{2}(101)(2\times 782 + (101-1)\times 8)$	**M1**	
	119382 cao	**A1)**	

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