Q	Marking instructions	AO	Marks	Typical solution
10(a)(i)	Obtains correct first term	1.1b	B1	21
	Subtotal		**1**	
10(a)(ii)	Obtains correct common difference	1.1b	B1	4
	Subtotal		**1**	
10(a)(iii)	Obtains correct number of terms	1.1b	B1	16
	Subtotal		**1**	
10(b)(i)	Finds or uses at least one of the first term, the common difference, the last term or the number of terms correctly or Expresses given series as a difference of two series using n= 1 to 100 and n = 1 to 9. Either $\sum_{n=1}^{100}(br+c)-\sum_{n=1}^{n=9}(br+c)$ or $b\sum_{n=1}^{100}r+100c\ -b\sum_{n=1}^{n=9}r-9c$	1.1b	B1	$n=91$ $a=10b+c$ $d=b$ $\mathrm{L}=100b+c$ $\frac{91}{2}(2(10b+c)+90b)=7735$ $91(55b+c)=7735$ $55b+c=85$
	Forms an equation in terms of b and c for the sum of n terms using '*their*' first term, '*their*' number of terms and either '*their*' common difference or '*their*' last term Alternative $\frac{100}{2}[2b+2c+99b]$ $-\frac{9}{2}[2b+2c+8b]$	3.1a	M1	
	Obtains correct equation ACF Alternative 5050b +100c - 45b - 9c = 7735 or 5005b + 91c = 7735	1.1b	A1	
	Completes rigorous argument to show the required result. This must include at least one single step of correct working between the initial correct formula and the given answer AG	2.1	R1	
	Subtotal		**4**	

10(b)(ii)	Uses or writes down $a + 39d$ or $a + d$ with '*their*' expressions for a and d Must be in terms of b and c	3.1a	B1	$4(11b + c) = 49b + c$ $5b - 3c = 0$ $b = 1.5$ $c = 2.5$
	Uses '*their*' $a + 39d$ and $a + d$ consistently to form 'their' equation $u_{40} = 4u_2$ in terms of b and c. Condone use of $50b + c$ for the fortieth term Condone $11b + c = 4(49b + c)$ OE with '*their*' a and d in terms of b and c	1.1a	M1	
	Solves $55b + c = 85$ with '*their*' other equation involving b and c PI by obtaining correct values of b and c or Obtains b = -12.75 and c = 786.25 from using $11b + c = 4(49b + c)$	1.1a	M1	
	Obtains correct values of b and c	1.1b	A1	
	Subtotal		**4**	
	Question Total		**11**	