Q1 June 2018

4	(a)(i)	30	B1	cao
	(ii)	Explanation	C1	for explanation, eg increase by 7, add 7, states $7n - 5$
	(b)	65	B1	cao

Q2 June 2019

13	(a)	example	C1	example given eg 40, 80, etc.	
	(b)	No with reason	C1	for No with reason **Acceptable examples** 80 and 88 are both in the sequence 80 is in the sequence and 85 is 5 more 24, 32, ….. 80, 88, …. 85 is not in the 8 times table 85 is an odd number $8n+16=85$ so n is not a whole number. **Not acceptable examples** adding 8 each time will not lead to 85 (insufficient) it goes past 85 Yes …..	No can be implied from their statement

Q3 June 2020

12	(a)(i)	20, 15	B1	cao	Working may be seen near the sequence
	(ii)	11	B1	cao	Working may be seen near the sequence
	(b)	39	B1	cao	

Q4 June 2022

8	(a)	28 33	B1	cao	
	(b)	Explanation	C1	for explanation **Acceptable examples** all terms end in 3 or 8 there are no terms that end in 0 50 does not end in 3 or 8 48 and 53 are both in the sequence (could be shown) 48 is in the sequence and 50 is 2 more $5n-2=50$ so n is not a whole number. if it started at 0 then it would but it starts at 3 so it never will or shows sequence continuing up to and beyond 50 **Not acceptable examples** adding 5 each time will not lead to 50 (insufficient) it goes past 50 the closest number to 50 is 48	One correct, one incorrect statement gets C1 as long as they are not contradictory.

Q5 Nov 2017

18	(a)		$3n + 1$	M1	for a method to deduce the nth term, eg. $3n + k$, where k is an integer or k is omitted or for $n = 3n + 1$
				A1	for $3n + 1$ oe (accept n replaced by another letter)
	(b)		No (supported)	C1	for using (their expression in (a)) = 90 or shows that 88 or 91 is in the sequence
				C1	for an answer of "No" and a convincing argument eg. pattern number 30 has 91 counters or $(90 - 1) \div 3$ (= 29.66…) or shows that the next term after 88 is 91 Note: no ft from (a)

Q6 Nov 2018

26	$6n - 1$	M1	for $6n + k$, where $k \neq -1$ or missing	Accept a different variable for M1 only
		A1	oe	Note $n = 6n - 1$ gets M1 only

Q7 Nov 2019

8	21, 28	B2	both correct	May be written alongside the given sequence but if contradiction accept the answer line. If both correct, accept in either order.
		(B1	one correct in the correct position **or** for 15 + 6 (= a) or a + 7 (= b) where $a \neq 21$ and $b \neq 28$)	May be seen as "+6" next to the sequence

Q8 Nov 2021

25	12	P1	for a process to find the fifth term eg 3a + 5a (=8a)	
		P1	for setting up the equation eg $a + 2a + 3a + 5a + [8a] = 228$	[8a] allow use of what is clearly indicated as the missing term
		A1	cao	$\frac{228}{19}$ or $\frac{228}{1+2+3+5+8}$ scores P1 P1 $\frac{228}{1+2+3+5+[8]}$ scores P0 P1

Q9 Nov 2022

10	(i)	terms given	B1	states two terms eg 11, 10 or 9, 6	May be written on the sequence with no contradiction elsewhere
	(ii)	explanation	C1	explanation **Acceptable examples** Take away 2 then 1; take away 4 then 3 The difference goes down by 1 each time −4, −3; −2, −1 The differences are 4 and 3; the differences are 2 and 1 **Not acceptable examples** It goes down by 1 each time An algebraic rule	

Q10 Nov 2023

8	(a)	Explanation	C1	for explanation, eg subtract 6, decrease by 6, going down by 6	
	(b)	12	M1	for 73 – 61 **or** 6 × 2	At least one term must be correct and intention to subtract shown
			A1	cao	Accept −12
	(c)	Explanation	C1	for explanation relating to odd and/or even numbers **Acceptable** 52 is even the sequence is odd numbers it goes to **55** (and you cannot reach 52) it goes to **49** (which has gone past 52) nth term is 103 − 6n = 52 which has no integer solutions 52 is between the 8th and 9th terms **Not acceptable** subtracting 6 each time will not lead to 52 it goes past 52	