

Sequences

June 2024 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
8	No from correct figures	P1 P1 A1	<p>for process to find year of Aisha's 18th birthday, eg $1993 + 18 (= 2011)$ or for process to find Aisha's age in 2030, eg $2030 - 1993 (= 37)$</p> <p>for process to find years of future elections, eg writes down 2011, 2016, 2021, 2026, 2031 or for $2011 + 4 \times 5 (= 2031)$ oe or for process to find Aisha's age in years when there is an election, eg writes down 18 in 2011, 23 in 2016, 28 in 2021, 33 in 2026 and 38 in 2031 or for process to find years between 18th birthday and election eg $2030 - 2011 (= 19)$</p> <p>for No with correct figures eg 2011 and 2026 or 2031 or for No with eg 37 and 33 or 38 or for No with 2011 (2016, 2021, ...) and explanation that election years end in 1 or 6, not 0 or for No with 2011 and explanation that 19 is not divisible by 5</p>	<p>At least 3 correct values needed</p> <p>At least 3 correct values needed, condone years missing eg 18, 23, 28,... without 2011, 2016, 2021...</p>

November 2023 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
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 8 th and 9 th terms Not acceptable subtracting 6 each time will not lead to 52 it goes past 52	

June 2022 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
8 (a)	28 33	B1	cao	One correct, one incorrect statement gets C1 as long as they are not contradictory.
(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	

June 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
9 (a)	28	B1	cao	
9 (b)	4 : 9	M1 A1	for 8 : 18 or for any ratio equivalent to 4 : 9 or 9 : 4 or 2.25 : 1 for 4 : 9	Accept 4 : 9 in the form 1 : n , eg 1 : 2.25

June 2022 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
9 (a)	Shape drawn	B1	cao	
(b)	9 and 11	B1	cao	Ignore any subsequent values

November 2022 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
10	(i) terms given (ii) explanation	B1 C1	states two terms eg 11, 10 or 9, 6 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	May be written on the sequence with no contradiction elsewhere

June 2020 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
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	

November 2021 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
13 (a)	Explanation	C1	for explanation Acceptable examples the sequence is going +1, +2 so the next term is +3 $1 + 1 = 2$, $2 + 2 = 4$, $4 + 3 = 7$ add the current term position to the term to get the next term add the two previous terms and add 1 Not acceptable examples you add 1 each time the number goes up by 3 7 is wrong it should be 8 because you double each time	The pattern may be just seen on the sequence given
(b)	36	M1 A1	for finding the next term of $10 + 5 (=15)$ or for $\frac{1}{2} \times 8 \times (8 + 1)$ oe cao	