

Question	Scheme	Marks	AOs
3 (a)	$a_1 = 3, a_2 = 0, a_3 = 1.5, a_4 = 3$	M1	1.1b
	$\sum_{r=1}^{100} a_r = 33(4.5) + 3$	M1	2.2a
	$= 151.5$	A1	1.1b
		(3)	
(b)	$\sum_{r=1}^{100} a_r + \sum_{r=1}^{99} a_r = (2)(151.5) - 3 = 300$	B1ft	2.2a
		(1)	

(4 marks)

Question 3 Notes:

(a)

M1: Uses the formula $a_{n+1} = \frac{a_n - 3}{a_n - 2}$, with $a_1 = 3$ to generate values for a_2, a_3 and a_4

M1: Finds $a_4 = 3$ and deduces $\sum_{r=1}^{100} a_r = 33("3" + "0" + "1.5") + "3"$

A1: which leads to a correct answer of 151.5

(b)

B1ft: Follow through on their periodic function. Deduces that either

- $\sum_{r=1}^{100} a_r + \sum_{r=1}^{99} a_r = (2)("151.5") - 3 = 300$

- $\sum_{r=1}^{100} a_r + \sum_{r=1}^{99} a_r = "151.5" + (33)("3" + "0" + "1.5") = 151.5 + 148.5 = 300$