

4.4 Sequences & Series

Question Paper

Course	Edexcel IAL Maths: Pure 2
Section	4. Sequences & Series
Topic	4.4 Sequences & Series
Difficulty	Easy

Time allowed: 20

Score: /18

Percentage: /100

Question 1

(a) Calculate

$$\sum_{r=1}^5 2r + 1$$

[2 marks]**Question 1**

(b) The sum given in part (a) is an arithmetic series.

Write down the first term and the common difference.

[2 marks]**Question 2**

(a) Calculate

$$\sum_{r=1}^3 2(3)^r$$

[2 marks]

Question 2

- (b) The sum given in part (a) is a geometric series.
Write down the first term and the common ratio.

[2 marks]**Question 3**

It is given that

$$\sum_{r=1}^4 a(r+2) = 72$$

where a is a positive integer.

- (a) (i) Show that $18a = 72$.
(ii) Find the value of a .

[3 marks]**Question 3**

- (b) Determine if the series is arithmetic or geometric, justifying your answer.

[1 mark]

Question 4

(a) The n^{th} term of an arithmetic series is given by $u_n = 3n + 5$.

Write the sum of the series, up to the n^{th} term, in sigma notation.

[2 marks]**Question 4**

(b) The n^{th} term of a geometric series is given by $u_n = 5 \times 2^{n-1}$.

Write the sum of the series, up to the n^{th} term, in sigma notation.

[2 marks]**Question 5**

Given that

$$\sum_{r=1}^k r^2 = 55$$

determine the value of k .

[2 marks]