

1 Here are the first four terms of a number sequence.

2 5 11 23

The rule to continue this sequence is

multiply the previous term by 2 and then add 1

Work out the 5th term of this sequence.

.....
(Total for Question is 1 mark)

2 Here is a sequence of patterns made with counters.



pattern number 1



pattern number 2



pattern number 3

(a) Find an expression, in terms of n , for the number of counters in pattern number n .

.....
 (2)

Bayo has 90 counters.

(b) Can Bayo make a pattern in this sequence using all 90 of his counters?

You must show how you get your answer.

(2)

(Total for Question is 4 marks)

3 Here are the first 4 terms of a sequence.

2 9 16 23

(a) (i) Write down the next term in the sequence.

.....
(1)

(ii) Explain how you got your answer.

.....
(1)

(b) Work out the 10th term of the sequence.

.....
(1)

(Total for Question 3 is 3 marks)

4 The n th term of a sequence is $2n^2 - 1$

The n th term of a different sequence is $40 - n^2$

Show that there is only one number that is in both of these sequences.

(Total for Question 4 is 3 marks)

- 5 Here are the first five terms of a sequence.

1 3 6 10 15

Write down the next two terms of the sequence.

..... ,

(Total for Question is 2 marks)

- 6 The first five terms of an arithmetic sequence are

1 4 7 10 13

Write down an expression, in terms of n , for the n th term of this sequence.

.....

(Total for Question is 2 marks)

7 Here are the first five terms of a number sequence.

45 40 35 30 25

(a) (i) Write down the next two terms of this sequence.

.....
(1)

A term of this sequence is -5

(ii) Which term?

.....
(1)

The n th term of a different sequence is given by the expression $4n + 3$

(b) Find the 9th term of this sequence.

.....
(1)

(Total for Question is 3 marks)