

nth Term of Linear Sequences

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **25**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** Here are the first five terms of an arithmetic sequence.

5 9 13 17 21

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

.....
(2)

(Total for Question 1 is 2 marks)

- 2** Here are the first five terms of an arithmetic sequence.

2 8 14 20 26

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

.....
(2)

(Total for Question 2 is 2 marks)

- 3** Here are the first five terms of an arithmetic sequence.

30 27 24 21 18

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

.....
(2)

(Total for Question 3 is 2 marks)

- 4** Here are the first five terms of an arithmetic sequence.

4 11 18 25 32

- (a) Find the 12th term of the sequence.

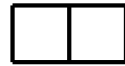
.....
(1)

- (b) Find the first term of the sequence that is greater than 150

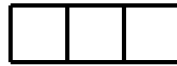
.....
(2)

(Total for Question 4 is 3 marks)

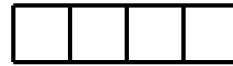
- 5 Here are the first three patterns in a sequence made from sticks.



Pattern
number 1



Pattern
number 2



Pattern
number 3

- (a) Write down an expression, in terms of n , for the number of sticks in pattern number n .

.....
(2)

- (b) Which pattern number uses 64 sticks?

.....
(1)

- (c) Kasia has 100 sticks.
She wants to make pattern number 40
How many more sticks does Kasia need?

.....
(2)

(Total for Question 5 is 5 marks)

- 6 Here are the first four terms of an arithmetic sequence.

5 8 11 14

Find the 20th term of the sequence.

.....
(2)

(Total for Question 6 is 2 marks)

- 7 The 3rd term of an arithmetic sequence is 18

The 7th term of the sequence is 38

Find the n th term of the sequence.

.....
(3)

(Total for Question 7 is 3 marks)

- 8 The n th term of a sequence is $2n + 6$
Hamid says 51 is a term in the sequence.

Explain why Hamid is wrong.

.....
(1)

(Total for Question 8 is 1 mark)

- 9 Here are the first four terms of an arithmetic sequence.

4 13 22 31

How many terms of the sequence are between 100 and 200?

.....
(3)

(Total for Question 9 is 3 marks)

- 10 Here are the first four terms of an arithmetic sequence.

11 8 5 2

Aisha says,

“The 20th term of this sequence is -49 ”

Is Aisha correct?

You must show how you get your answer.

.....
(2)

(Total for Question 10 is 2 marks)
