

# E2.7 Sequences & nth Term

## Question Paper

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Level	Core
Topic	E2. Algebra and Graphs
Sub-Topic	E2.7 Sequences & nth Term
Booklet	Question Paper

**Time Allowed:** 26 minutes

**Score:** /22

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

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1 Find the next term in each of these sequences.

(a) 3, 7, 11, 15, ...

..... [1]

(b) 10, 7, 4, 1, ...

..... [1]

(c) 1, 9, 25, 49, ...

..... [1]

2 Here are the first five terms in a sequence.

4      11      18      25      32

Find an expression for the  $n$ th term of this sequence.

..... [2]

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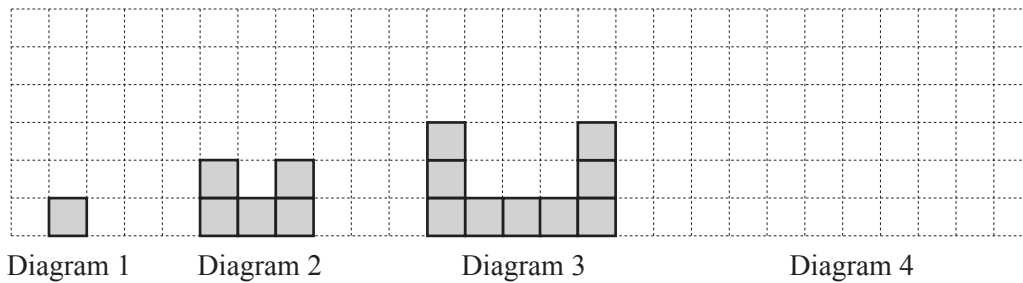
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- 3 (a) A solid has 6 faces, 8 vertices and 12 edges.  
All the edges have the same length.

Write down the mathematical name of this solid.

..... [1]

- (b) Here is a sequence of diagrams made from identical square tiles.



- (i) On the grid, draw Diagram 4. [1]
- (ii) Complete the table.

Diagram	1	2	3	4	5
Number of tiles	1	5	9		

[2]

- (iii) Find an expression, in terms of  $n$ , for the number of tiles in Diagram  $n$ .

..... [2]

- (iv) Find the number of tiles in Diagram 19.

..... [1]

- (v) A box contains 98 of these tiles.

- (a) Diagram  $x$  is made from as many tiles as possible from this box.

Find the value of  $x$ .

$x =$  ..... [2]

(b) When Diagram  $x$  is made, how many tiles are left in the box?

..... [1]

4

35, 41,

For this sequence, write down

(a) the next term,

..... [1]

(b) the  $n$ th term.

..... [2]

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5 (a) 2, 3, 6, 11, 18, ...

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

Answer(a)(i) ....., ..... [2]

(ii) Describe, in words, the rule for continuing this sequence.

Answer(a)(ii) ..... [1]

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- (b) The  $n$ th term of a different sequence is  $4n - 3$ .

Work out the first three terms in this sequence.

*Answer(b)* ..... , ..... , ..... [1]