

Sequences

ANSWERS

Calculator | 30 minutes | Total marks: 23

Name Class

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

5 8 11 14

Answer 17 and 20 (1) [1 mark]

- (b) Write down the rule for continuing the sequence in part (a).

Answer add 3 (1) [1 mark]

- (c) Write down the next two terms of this sequence.

30 26 22 18

Answer 14 and 10 (1) [1 mark]

- 2 Write the two missing terms in this sequence.

2 6 10 14 18 (1)(1)

[2 marks]

3

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



Pattern 1



Pattern 2



Pattern 3

(a) Complete the table.

Pattern number	1	2	3	4	5
Number of sticks	3	5	7	9 (1)	11 (1)

[2 marks]

(b) How many more sticks are needed each time?

Answer 2 (1)

[1 mark]

(c) How many sticks are needed for Pattern 10?

$$2 \times 10 + 1 \text{ (1)}$$

Answer 21 (1)

[2 marks]

4

Here is a function machine.

Input $\rightarrow$ $\times 2$ $\rightarrow$ $+ 1$ $\rightarrow$ Output

Complete the table.

Input	1	2	5	10
Output	3	5	11 (1)	21 (1)

[2 marks]

5

The n th term of a sequence is $2n + 3$

(a) Work out the 1st term.

Answer 5 (1)

[1 mark]

(b) Work out the 2nd term.

Answer 7 (1)

[1 mark]

(c) Work out the 10th term.

Answer 23 (1)

[1 mark]

6 Work out the n th term of each sequence.

(a) 3 6 9 12

Answer $3n$ (1) [1 mark]

(b) 4 7 10 13

$3n$ (1)

Answer $3n + 1$ (1) [2 marks]

7 (a) Write down the first five square numbers.

Answer 1, 4, 9, 16, 25 (1)(1) [2 marks]

(b) In this sequence, each term is the sum of the two terms before it.

1 1 2 3 5 8 (1)

Write the next term in the box.

[1 mark]

8

Here is a sequence.

2 4 8 16

(a) Write down the next term.

Answer 32 (1)

[1 mark]

(b) Write down the rule for continuing the sequence.

Answer multiply by 2 (1)

[1 mark]

Question	Topic	RAG
1	I can continue a sequence and give its rule	
2	I can find missing terms	
3	I can continue a pattern and find a later pattern	
4	I can use a function machine	
5	I can use an nth term	
6	I can find the nth term of a sequence	
7	I know square numbers and Fibonacci type sequences	
8	I can continue a sequence that doubles	