



Name: _____ **Date:** _____ **Score:** _____ / 36

1 Here are the first four terms of a sequence.

3 6 12 24

- Write down the next term of the sequence.
- Write down the term-to-term rule of the sequence.

(2 marks)

Answer _____

2 Here are the first four terms of a sequence.

14 11 8 5

- Work out the next two terms of the sequence.
- Write down the term-to-term rule of the sequence.

(3 marks)

Answer _____

3 Here are four sequences.

A 4 9 14 19

B 1 4 9 16

C 2 6 18 54

D 1 1 2 3 5

For each sequence, write down

- the type of sequence: arithmetic, geometric, square numbers or Fibonacci-type
- the next term.

(4 marks)

Answer _____

- 4 The n th term of a sequence is $6n - 1$
Write down the first three terms of the sequence.

(2 marks)

Answer _____

- 5 a. The n th term of a sequence is $20 - 3n$
Write down the first three terms and work out the 10th term.
b. The n th term of another sequence is $n^2 + 2$
Write down the first three terms.

(3 marks)

Answer _____

- 6 Here are the first four terms of an arithmetic sequence.
5 9 13 17
Find an expression, in terms of n , for the n th term of the sequence.

(2 marks)

Answer _____

- 7 Here are the first four terms of an arithmetic sequence.
20 17 14 11
Find an expression, in terms of n , for the n th term of the sequence.

(2 marks)

Answer _____

8

Kwame makes patterns from square tiles.

Pattern 1 uses 6 tiles. Pattern 2 uses 10 tiles. Pattern 3 uses 14 tiles.

The number of tiles goes up by the same amount each time.

- Find an expression, in terms of n , for the number of tiles in Pattern n .
- Work out the number of tiles in Pattern 20
- Kwame says, "One of my patterns uses exactly 100 tiles." Is Kwame right? Show how you decide.

(4 marks)

Answer _____

9

The n th term of a sequence is $5n - 3$

- Work out the 12th term of the sequence.
- Is 122 a term of the sequence? You must show how you get your answer.

(3 marks)

Answer _____

10

Here are the first four terms of an arithmetic sequence.

8 15 22 29

- Find an expression, in terms of n , for the n th term of the sequence.
- Explain why 150 is not a term of the sequence.

(4 marks)

Answer _____

11

Here are the first five terms of a quadratic sequence.

2 7 14 23 34

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

(2 marks)

Answer _____

EXTENSION QUESTIONS

12 Here are the first five terms of a quadratic sequence.

4 11 22 37 56

- Find an expression, in terms of n , for the n th term of the sequence.
- Work out the 10th term of the sequence.

(5 marks)

Answer

End of questions | Total 36 marks