1 Here are the first five terms of a sequence.

2 5 8 11 14

Write down the next two terms in the sequence.

(1 mark)

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2 The first term in a sequence is 3.
The term to term rule is add 5.

Is 97 a term in the sequence?
Give a reason for your answer.

(2 marks)

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3 Here are the first five terms of a sequence

6 10 14 18 22

Write down the next two terms in the sequence.

(2 marks)

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4 The nth term of a sequence is 4n + 3

(a) Find the first two terms of this sequence.

(b) Is 35 a term in this sequence.
You must show how you get your answer.

(2 marks)

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5 The nth term of a sequence is $n^2 + 1$

(a) Find the first two terms of this sequence. (1)

(b) Is 35 a term in this sequence.
You must show how you get your answer. (1)

(2 marks)

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6 Here are the first 5 terms of a sequence.

17 14 11 8 5

(a) Find the next term of this sequence. (1)

The nth term of a different sequence is $10n^2 + 5$

(b) Work out the 5th term of this sequence. (1)

(2 marks)

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7 Here are the first four terms of a sequence.

7 13 19 25

(a) Write down the next term in the sequence. (1)

(b) Explain how you got your answer (1)

(2 marks)

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

2 3 5 9

The rule to continue the sequence is:
multiply the previous term by 2 and then subtract 1
Work out the 5th term of this sequence.

(1 mark)

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9 Here are the first 5 terms of a sequence.

29 24 19 14 9

Find the 8th term of this sequence.

(2 marks)

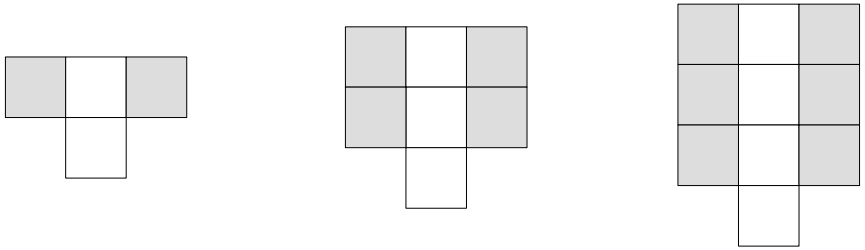
10 The nth term of a sequence is $n^2 + 3$

(a) Find the first three terms of this sequence. (2)

(b) Find the 10^{th} term in this sequence. (1)

(3 marks)

11 Here is a sequence of patterns made from white tiles and grey tiles.



pattern number 1 pattern number 2 pattern number 3

(a) Draw pattern number 4. (1)

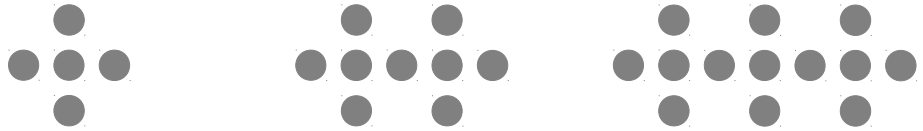
(b) Work out the total number of tiles to make pattern number 7. (2)

Kyle says
"There are 4 white tiles in pattern number 3 so there will be 8 white tiles in pattern number 6."

(c) Is Kyle right? (1)
You must give a reason for your answer.

(4 marks)

12 Here is a sequence of patterns made from grey counters.



pattern number 1 pattern number 2 pattern number 3

(a) Draw pattern number 4. (1)

(b) Work out the total number of counters to make pattern number 10. (2)

(3 marks)

13 Here are the first five terms of a sequence.

31 27 23 19 15

(a) Find the first negative term in the sequence. (2)

(b) Is –30 a term in this sequence? (1)
Give a reason for your answer.

(3 marks)

14 Here are the first 5 terms of an arithmetic sequence.

-3 1 5 9 13

(a) Find an expression, in terms of n, for the nth term of this sequence.

(2)

The nth term of a different arithmetic sequence is $2n - 3$

(b) Is 101 a term in this sequence?
Show how you get your answer.

(2)

(4 marks)

15 Here are the first 5 terms of a sequence.

9 14 19 24 29

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

(2 marks)

16 Here are the first 5 terms of a sequence.

25 22 19 16 13

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

(2 marks)

17 Here are the first four terms of an arithmetic sequence.

4 11 18 25

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

(2 marks)

18 Here are the first four terms of an arithmetic sequence.

35 31 27 23

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

(2 marks)

19 Here are the first five terms of an arithmetic sequence.

21 27 33 39 45

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

(2 marks)

20 Here are the first five terms of an arithmetic sequence.

2 7 12 17 22

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

(2 marks)