

Name: \_\_\_\_\_

Exam Style Questions



Sequences: nth term

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

### Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

Video 288



1. Here are the first five terms in a number sequence.

7 10 13 16 19

(a) Find the 10<sup>th</sup> term in this number sequence.

.....  
(2)

(b) Write an expression, in terms of  $n$ , for the  $n$ th term of this number sequence.

.....  
(2)

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2. A number sequence has  $n$ th term  $6n + 3$

(a) Write down the first four terms of this sequence.

1st term ....., 2nd term ....., 3rd term ....., 4th term .....  
(3)

(b) Sara says that 1008 is a term in this sequence.  
Explain why she is wrong.

.....  
.....  
.....  
(1)

3. A sequence of numbers is shown below.

1    5    9    13    17    ...    ...

(a) Find an expression for the  $n$ th term of the sequence.

.....  
(2)

(b) Explain why 95 will not be a term in this sequence.

.....  
.....  
(2)

---

4. The  $n$ th term of a number sequence is given by  $5n + 2$

(a) Work out the first three terms of the number sequence.

1st term ....., 2nd term ....., 3rd term .....  
(2)

Here are the first five terms of another number sequence.

5    11    17    23    29

(b) Find, in terms of  $n$ , an expression for the  $n$ th term of this sequence.

.....  
(2)

5. A sequence of numbers is shown.

2      9      16      23      30      ...      ...

(a) Find an expression for the  $n$ th term of the sequence.

.....  
**(2)**

(b) Find the 100<sup>th</sup> term in the sequence.

.....  
**(2)**

6. The  $n$ th term of a number sequence is  $n^2 + 3$ .

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

1st term ....., 2nd term ....., 3rd term .....  
**(2)**

(b) Work out the difference between the 5<sup>th</sup> and 10<sup>th</sup> terms in the sequence.

.....  
**(3)**

7. The first 5 terms in a number sequence are

10   7   4   1   -2   ...   ...

(a) Work out the  $n$ th term of the sequence.

.....  
(2)

(b) Find the 50<sup>th</sup> term of the sequence.

.....  
(2)

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8. Work out the  $n$ th term for this sequence

12   22   32   42   52   ...   ...

.....  
(2)

9. The  $n$ th term of a sequence is  $3n - 2$

(a) Write down the first two terms of this sequence.

1st term ....., 2nd term .....  
(2)

(b) Which term of the sequence is equal to 70?

.....  
(2)

(c) Explain why 101 is not a term in the sequence.

.....  
.....  
.....  
(2)

10. Here are the  $n$ th terms of 4 sequences.

Sequence 1	$n$ th term	$3n + 1$
Sequence 2	$n$ th term	$5n + 10$
Sequence 3	$n$ th term	$10n$
Sequence 4	$n$ th term	$5n - 1$

For each sequence state whether the numbers in the sequence are

- A Always multiples of 5
- S Sometimes multiples of 5
- N Never multiples of 5

Sequence 1 .....

Sequence 2 .....

Sequence 3 .....

Sequence 4 .....

(4)

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

Write down the first three terms of the sequence.

1st term ....., 2nd term ....., 3rd term .....  
(2)

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12. The  $n$ th term of a sequence is  $4n - 7$

(a) Write down the first three terms of the sequence.

1st term ....., 2nd term ....., 3rd term .....  
(2)

(b) What is the difference between the 150<sup>th</sup> and 151<sup>st</sup> terms?

.....  
(1)

The last term of this sequence is 393.

(c) How many terms are there in this sequence?

.....  
(2)



13. Find the  $n$ th term of the sequences

(a) 1, 4, 9, 16, 25, ...

.....  
(1)

(b) 3, 6, 11, 18, 27, ...

.....  
(1)

(c) -3, 0, 5, 12, 21, ...

.....  
(1)

(d) 2, 8, 18, 32, 50, ...

.....  
(1)

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14. The first 5 terms in a number sequence are

30    25    20    15    10    ...    ...

Work out the  $n$ th term of the sequence.

.....  
(2)

15. The first 5 terms in a number sequence are

2    2.5    3    3.5    4    ...    ...

(a) Work out the  $n$ th term of the sequence.

.....  
(2)

(b) Work out the 20<sup>th</sup> term of the sequence.

.....  
(2)

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16. Martin has written the first 50 terms of the sequence with  $n$ th term  $150 - 4n$ .

Work out which term is the first negative term.

.....  
(3)

17. The  $n$ th term of a sequence is  $(n + 1)(n + 3)$

Work out the first three terms of the sequence.

1st term ....., 2nd term ....., 3rd term .....

**(2)**