

## NTH TERM – PRACTICE QUESTIONS



1.

Find the  $n$ th term of the following sequences:

(a) 5, 7, 9, 11, ...

(b) 7, 12, 17, 22, ...

(c) 10, 13, 16, 19, ...

(d) 4, 10, 16, 22, ...

(e) 5, 13, 21, 29, ...

(f) 9, 20, 31, 42, ...

(g) 11, 18, 25, 32, ...

(h) 9, 7, 5, 3, ...

(i) 23, 19, 15, 11, ...

(j) 12, 7, 2, -3, ...

(k) -7, -4, -1, 2, ...

(l) -11, -1, 9, 19, ...

(m) 63, 55, 47, 39, ...

(n) 10, 24, 38, 52, ...

(o) 7, 27, 47, 67, ...

2.

(a) Find the  $n$ th term of the sequence 6, 11, 16, 21, ...

(b) Use your  $n$ th term formula to find the 50<sup>th</sup> term in the sequence.

3.

(a) Find the  $n$ th term of the sequence 12, 15, 18, 21, ...

(b) Use your  $n$ th term formula to find the 20<sup>th</sup> term in the sequence.

4.

(a) Find the  $n$ th term of the sequence 7, 15, 23, 31, ...

(b) Use your  $n$ th term formula to find the 50<sup>th</sup> term in the sequence.

5.

(a) Find the  $n$ th term of the sequence 5, 14, 23, 32, ...

(b) Use your  $n$ th term formula to find the 100<sup>th</sup> term in the sequence.

6.

(a) Find the  $n$ th term of the sequence 20, 17, 14, 11, ...

(b) Use your  $n$ th term formula to find the 50<sup>th</sup> term in the sequence.

7.

(a) Find the  $n$ th term of the sequence 6, 10, 14, 18, ...

(b) Is 90 in the sequence?

(c) Is 164 in the sequence?

8.

(a) Find the  $n$ th term of the sequence 5, 16, 27, 38, ...

(b) Is 114 in the sequence?

(c) Is 258 in the sequence?

9.

(a) Find the  $n$ th term of the sequence 11, 17, 23, 29, ...

(b) Is 203 in the sequence?

10.

(a) Find the  $n$ th term of the sequence 9, 16, 23, 30, ...

(b) Use your  $n$ th term formula to find the 100<sup>th</sup> term in the sequence.

(c) Is 149 in the sequence?

11.

(a) Find the  $n$ th term of the sequence 1, 7, 13, 19, ...

(b) Use your  $n$ th term formula to find the 40<sup>th</sup> term in the sequence.

(c) Is 347 in the sequence?

12.

(a) Find the  $n$ th term of the sequence 10, 19, 28, 37, ...

(b) Use your  $n$ th term formula to find the 200<sup>th</sup> term in the sequence.

(c) Is 176 in the sequence?

13.

(a) Find the  $n$ th term of the sequence 31, 28, 25, 22, ...

(b) Use your  $n$ th term formula to find the 50<sup>th</sup> term in the sequence.

(c) Is -40 in the sequence?

14.

(a) Find the  $n$ th term of the sequence -19, -13, -7, -1, ...

(b) Use your  $n$ th term formula to find the 100<sup>th</sup> term in the sequence.

(c) Is 125 in the sequence?

15.

(a) Find the  $n$ th term of the sequence 15, 33, 51, 69, ...

(b) Use your  $n$ th term formula to find the 25<sup>th</sup> term in the sequence.

(c) Is 555 in the sequence?

16.

A sequence has  $n$ th term  $3n + 7$ .

Find the difference between the 5<sup>th</sup> and 20<sup>th</sup> terms in the sequence.

17.

A sequence has  $n$ th term  $4n - 5$ .

Carl says "26 is a term in the sequence".

Is Carl correct?

18.

The first three terms of a linear sequence are 8, 17 and 26.

(a) Find the 20<sup>th</sup> term in the sequence.

(b) Find the difference between the 25<sup>th</sup> and 30<sup>th</sup> terms in the sequence.

19.

A sequence has  $n$ th term  $n^2 + 11$ .

Find the difference between the 5<sup>th</sup> and 8<sup>th</sup> terms in the sequence.

20.

A sequence has  $n$ th term  $3n + q$ .

The first term in the sequence is 11.

(a) Find  $q$ .

(b) Hence find the 12<sup>th</sup> term in the sequence.

21.

A and B are linear sequences.

The first three terms of Sequence A are 7, 15 and 23.

Sequence B has  $n$ th term  $4n + 2$ .

Rob says "There is a number that appears in both sequences".

Explain why Rob is incorrect.

22.

A sequence has  $n$ th term  $3n^2$ .

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

(b) Is 75 in the sequence?

Another sequence has  $n$ th term  $2n^2 - 5$ .

(c) Show that the number 3 appears in both sequences.

23.

A sequence has  $n$ th term  $4n + y$ .

The third term in the sequence is 9.

Find  $y$ .

24.

A linear sequence has  $n$ th term  $an + b$ .

The second term in the sequence is 16.

The fourth term in the sequence is 22.

Find  $a$  and  $b$ .

25.

Sequence X has  $n$ th term  $4n - 7$ .

Sequence Y has  $n$ th term  $20 - 3n$ .

Claire says "There is only one number that appears in both sequences".

Show that Claire is incorrect.