8 The nth term of a sequence is $n^2 + 12$.

Find the first three terms of this sequence.

..... , ... , ... [2]

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

Find the first three terms of this sequence.

..... , ... , ... [2]

6 **(a)** The nth term of a sequence is $n^2 + 3n$.

Find the first three terms of this sequence.

....., ..., ... [2]

8 **(a)** The nth term of a sequence is $10 - n^2$.

Write down the first three terms of this sequence.

..... , ... , ... [2]

10 **(a)** The nth term of a sequence is $n^2 + 7$.

Find the first three terms of this sequence.

....., ..., ... [2]

(b) These are the first five terms of another sequence.

4 7 12 19 28

Find the nth term.

..... [2]

8 Find the next term and the nth term for this sequence.

1, 7, 17, 31, 49, ...

next term .....

nth term ..... [3]

14 Find the nth term of this sequence.

8, 17, 32, 53, 80, …

..... [2]

11 Find the next term and an expression for the nth term of this sequence.

35, 29, 19, 5, …

next term = ...

nth term = ... [3]

(c) Find the nth term of each sequence.

(i) 4 2 0 −2 −4 …

..... [2]

(ii) 1 7 17 31 49 …

..... [2]

6 Find the next term and the nth term of this sequence.

0 1 4 9 16 ....

next term = ...

nth term = ... [3]

8 **(a)** 3, 9, 27, 81, …

Write down the next term in this sequence.

..... [1]

8 **(a)** The nth term of a sequence is $n^2 - 3$.

Find the first three terms of this sequence.

....., ..., ... [2]

(b) These are the first five terms of a different sequence.

1 3 9 27 81

Find the nth term of this sequence.

..... [2]

11 Here are the first five terms of a sequence.

$\frac{1}{4}$ 1 4 16 64

(a) Find the next term.

..... [1]

(b) Find the nth term.

..... [2]

20 Find the nth term of each sequence.

(a) $-1, \quad 0, \quad 7, \quad 26, \quad 63, \quad \ldots$

..... [2]

(b) $24, \quad 12, \quad 6, \quad 3, \quad 1.5, \quad \ldots$

..... [2]

(b) Find the nth term of each sequence.

(i) $6, \quad 13, \quad 32, \quad 69, \quad 130, \quad \ldots$

..... [2]

(ii) $100, \quad 50, \quad 25, \quad 12.5, \quad 6.25, \quad \ldots$

..... [2]

16 Find the nth term of each sequence.

(a) 8, 15, 34, 71, 132, ...

..... [2]

(b) $\frac{2}{1}$, $\frac{3}{4}$, $\frac{4}{16}$, $\frac{5}{64}$, $\frac{6}{256}$, ...

..... [3]

(c) Find the nth term for each of these sequences.

(i) 13, 16, 19, 22, 25, …

..... [2]

(ii) 3, 17, 55, 129, 251, …

..... [2]

8 Find an expression for the nth term of each sequence.

(b) 1, −2, 3, −4, 5, …

..... [2]

(b) 1, 5, 25, 125, 625, …

..... [2]

(c) The **sum of the first n terms** of another sequence is $\frac{n}{2}(5n-1)$.

(i) Use $n = 2$ to find the sum of the first two terms in this sequence.

..... [1]

(ii) Find the 3rd term of this sequence.

..... [2]

6 **(a)** These are the first five terms of a sequence.

27 26 23 18 11

Find the next two terms in the sequence.

....., ... [2]

(b) The table shows information about two different sequences.

	First five terms of sequence					*n*th term
Sequence A	3	10	17	24	31	
Sequence B	2	11	26	47	74	

Complete the table.

[4]

12 The table shows the first five terms of sequences A, B and C.

	1st term	2nd term	3rd term	4th term	5th term	nth term
Sequence A	8	3	-2	-7	-12	
Sequence B	2	$\frac{3}{2}$	$\frac{4}{3}$	$\frac{5}{4}$	$\frac{6}{5}$	
Sequence C	$\frac{1}{2}$	1	2	4	8	

Complete the table to show the nth term of each sequence.

[5]

6 **(a)**

Sequence	1st term	2nd term	3rd term	4th term	5th term		*n*th term
A	-7	-3	1	5			
B	7	13	23	37			
C	$\frac{2}{27}$	$\frac{3}{81}$	$\frac{4}{243}$	$\frac{5}{729}$			

Complete the table for the three sequences.

[10]

13 The table shows the first 5 terms of sequences A, B and C.

	1st term	2nd term	3rd term	4th term	5th term	nth term
Sequence A	5	12	31	68	129	
Sequence B	$\frac{10}{3}$	$\frac{9}{4}$	$\frac{8}{5}$	$\frac{7}{6}$	$\frac{6}{7}$	
Sequence C	4	8	16	32	64	

Complete the table to show the nth term of each sequence.

[6]

11 The table shows three sequences.

	1st term	2nd term	3rd term	4th term	5th term	6th term	*n*th term
Sequence *A*	28	22	16	10	4		
Sequence *B*	$\frac{1}{6}$	$\frac{2}{7}$	$\frac{3}{8}$	$\frac{4}{9}$	$\frac{1}{2}$		
Sequence *C*	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4		

Complete the table.

[8]

11

Sequence	1st term	2nd term	3rd term	4th term	5th term		*n*th term
A	13	9	5	1			
B	0	7	26	63			
C	$\frac{7}{8}$	$\frac{8}{16}$	$\frac{9}{32}$	$\frac{10}{64}$			

(a) Complete the table for the three sequences.

[10]

(b) One term in Sequence C is $\frac{p}{q}$.

Write down the next term in Sequence C in terms of p and q.

..... [2]