1. Here are the first five terms of a sequence together with its expression for the $n$th term

| 6 | 12 | 22 | 36 | 54 | $2 n^{2}+4$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

Match these five expression for the $n$th term of a sequence with the five sequences in the table.

$$
n^{2}+2 \quad 4 n^{2}+8 \quad-2 n^{2}-4 \quad 2 n^{2}+6 \quad 2 n^{2}+1
$$

| $a$ | 3 | 9 | 19 | 33 | 51 |  |
| :---: | :---: | :---: | :---: | :---: | ---: | :--- |
| $b$ | 12 | 24 | 44 | 72 | 108 |  |
| $c$ | 8 | 14 | 24 | 38 | 56 |  |
| $d$ | 3 | 6 | 11 | 18 | 27 |  |
| $e$ | -6 | -12 | -22 | -36 | -54 |  |

2. Here are the first five terms of a sequence.
25
10
17
26

An expression for the $n$th term of this sequence is $n^{2}+1$
Write down in terms of $n$, an expression for the $n$th term of a sequence whose first five terms are
710
15
22
31

1. Here are the first five terms of a sequence together with its expression for the $n$th term

| 6 | 12 | 22 | 36 | 54 | $2 n^{2}+4$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

Match these five expression for the $n$th term of a sequence with the five sequences in the table.

$$
n^{2}+2 \quad 4 n^{2}+8 \quad-2 n^{2}-4 \quad 2 n^{2}+6 \quad 2 n^{2}+1
$$

| $a$ | 3 | 9 | 19 | 33 | 51 |  |
| :---: | :---: | :---: | :---: | :---: | ---: | :--- |
| $b$ | 12 | 24 | 44 | 72 | 108 |  |
| $c$ | 8 | 14 | 24 | 38 | 56 |  |
| $d$ | 3 | 6 | 11 | 18 | 27 |  |
| $e$ | -6 | -12 | -22 | -36 | -54 |  |

2. Here are the first five terms of a sequence.
$\begin{array}{lllll}2 & 5 & 10 & 17 & 26\end{array}$
An expression for the $n$th term of this sequence is $n^{2}+1$
Write down in terms of $n$, an expression for the $n$th term of a sequence whose first five terms are
710
15
22
31
3. Here are the first five terms of a sequence.
12
$6 \quad-4$
-18 -36

An expression for the $n$th term of this sequence is $14-2 n^{2}$
Write down in terms of $n$, an expression for the $n$th term of a sequence whose first five terms are
$\begin{array}{lllll}8 & 2 & -8 & -22 & -40\end{array}$
4. Here are the first five terms of a sequence.
3
-9
-24

An expression for the $n$th term of this sequence is $6 n-3 n^{2}$
Write down in terms of $n$, an expression for the $n$th term of a sequence whose first five terms are
-3
0
9
24
45
sequenceOther (8) Answers 1a) $2 n^{2}+1$
b) $4 n^{2}+8$
c) $2 n^{2}+6$
d) $n^{2}+2$
e) $-2 n^{2}-4$
2) $n^{2}+6$
3) $10-2 n^{2}$
4) $-6 n+3 n^{2}$
3. Here are the first five terms of a sequence.

$$
\begin{array}{lllll}
12 & 6 & -4 & -18 & -36
\end{array}
$$

An expression for the $n$th term of this sequence is $14-2 n^{2}$
Write down in terms of $n$, an expression for the $n$th term of a sequence whose first five terms are

$$
\begin{array}{lllll}
8 & 2 & -8 & -22 & -40
\end{array}
$$

4. Here are the first five terms of a sequence.
3
$0 \quad-9$
-24
-45

An expression for the $n$th term of this sequence is $6 n-3 n^{2}$
Write down in terms of $n$, an expression for the $n$th term of a sequence whose first five terms are

$$
\begin{array}{ccccc}
-3 & 0 & 9 & 24 & 45
\end{array}
$$

sequenceOther (8) Answers 1a) $2 n^{2}+1$ b) $4 n^{2}+8$ c) $2 n^{2}+6$ d) $n^{2}+2$ e) $-2 n^{2}-4$
2) $n^{2}+6$
3) $10-2 n^{2}$
4) $-6 n+3 n^{2}$

