Name:

Level 2 Further Maths

Quadratic Sequences

Corbettmaths

Ensure you have: Pencil or pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Revision for this topic

www.corbettmaths.com/more/further-maths/

1. The first four terms of a quadratic sequence are shown below
Work out the next term.

9 13 19 27

.....

(2)

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2. The nth term of a quadratic sequence is $n^2 - 3n + 8$

Work out the difference between the 10th and 15th terms.

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(2)

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3. A sequence has an nth term of $n^2 - 6n + 11$

Work out which term in the sequence has a value of 27

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(2)

4. The first five terms of a sequence are shown below.

6, 13, 24, 39, 58 … …

Work out an expression for the nth term of the sequence

……..

(4)

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5. The first five terms of a sequence are shown below.

9, 24, 45, 72, 105 … …

Work out an expression for the nth term of the sequence

……..

(4)

6. The first five terms of a sequence are shown below.

–6, –1, 6, 15, 26 …

Work out an expression for the nth term of the sequence

……..

(4)

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7. The first five terms of a sequence are shown below.

100, 96, 90, 82, 72 …

Work out an expression for the nth term of the sequence

……..

(4)

8. The first five terms of a sequence are shown below.

2.5, 5, 8.5, 13, 18.5 …

Work out an expression for the nth term of the sequence

……..

(4)

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9. The first five terms of a sequence are shown below.

–17, –30, –49, –74, –105 … …

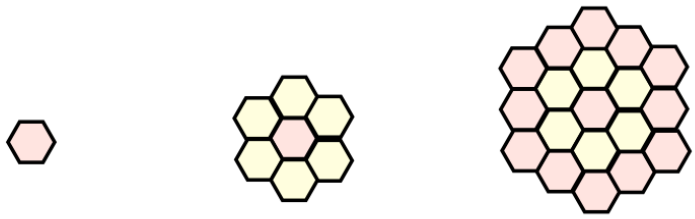
Work out an expression for the nth term of the sequence

……..

(4)

10. Here is a tile.

Here is a sequence of patterns made from these tiles.



How many of these tiles are needed to make Pattern number 12?

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(5)

11. The nth term of a sequence is $n^2 + 6n$
Two consecutive terms in the sequence have a difference of 35

Work out the two terms.

…… and ……

(4)

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12. Prove that every term in the sequence $n^2 - 10n + 28$ is positive

(4)

13. The nth term of a sequence is $\frac{n^2+9}{6n^2-1}$

Find the limiting value of $\frac{n^2+9}{6n^2-1}$ as $n \to \infty$

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(2)

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14. The first 4 terms of a sequence are: 404, 394, 379, 359 … ..

Which term is the first to be negative?

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(5)