

Sequences and the nth Term

GCSE Mathematics • **Foundation Tier** • Grades 4–5 • Non-calculator

Name:

Class:

Total: / 49

Show all your working. Marks are given for correct method as well as the final answer.

1. Write down the next two terms of 4, 7, 10, 13, ... [2 marks]

Answer:

2. Write down the next two terms of 20, 16, 12, ... [2 marks]

Answer:

3. Find the nth term of 5, 8, 11, 14, ... [2 marks]

Answer:

4. Find the nth term of 7, 12, 17, 22, ... [2 marks]

Answer:

5. Find the nth term of 2, 9, 16, 23, ... [2 marks]

Answer:

6. Find the n th term of 19, 15, 11, 7, ... [3 marks]

Answer:

7. The n th term of a sequence is $6n - 1$. Write down the first three terms. [2 marks]

Answer:

8. The n th term is $4n + 3$. Work out the 20th term. [2 marks]

Answer:

9. The n th term is $50 - 3n$. Work out the 12th term. [2 marks]

Answer:

10. Is 61 a term of the sequence $3n + 1$? Show your working. [3 marks]

Answer:

11. Is 100 a term of the sequence $4n + 3$? Show your working. [3 marks]

Answer:

12. Find the first term of $7n - 2$ that is greater than 100. [3 marks]

Answer:

13. Write down the next two terms of 1, 1, 2, 3, 5, ... [2 marks]

Answer:

14. Write down the next two terms of 3, 6, 12, 24, ... [2 marks]

Answer:

15. Write down the next two terms of 1, 4, 9, 16, ... [2 marks]

Answer:

16. Write down the next two terms of 1, 3, 6, 10, ... [2 marks]

Answer:

17. Write down the n th term of the sequence of square numbers. [1 mark]

Answer:

18. A sequence starts 2, 6, 18, 54. Describe the rule.

[2 marks]

Answer:

19. A pattern is made from matchsticks. Pattern 1 uses 4, pattern 2 uses 7, pattern 3 uses 10.

(a) Find the n th term for the number of matchsticks.

[3 marks]

(b) Work out how many matchsticks pattern 50 uses.

[2 marks]

Answer:

20. A sequence has n th term $2n + 5$.

(a) Work out the sum of the first four terms.

[3 marks]

(b) Explain why every term of this sequence is odd.

[2 marks]

Answer:

