

GCSE Mathematics

H

Quadratic & Geometric Sequences

Higher | Grades 6-9

Total Marks	Time	Questions
58	58 min	20

Instructions:

- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

© Teachably. This resource may not be copied or distributed without permission.

Want help from an expert maths tutor?

Book a free GCSE Maths consultation with our team at Teachably. Visit teachably.co.uk/book-call to get started.

Edexcel-style questions**Q1** 

Grade 6

Edexcel style

The n th term of a sequence is $n^2 + 3$. Find the 1st and 4th terms.

Answer

teachably

[2 marks]**Q2** 

Grade 7

Edexcel style

Find the common ratio of the sequence 2, 6, 18, 54, ... and hence find the next term.

Answer

teachably

[3 marks]**Q3** 

Grade 8

Edexcel style

Find the n th term of the sequence 3, 8, 15, 24, 35, ...

Answer

teachably

[3 marks]

Q4

Grade 8

Edexcel style

A geometric sequence begins 4, 12, 36, 108, ... Find the n th term, and hence find the 6th term.

Answer

teachably

[3 marks]**Q5**

Grade 9

Edexcel style

The n th term of a sequence is $n^2 + 2n - 1$. Find the value of n for which the n th term is 79.

Answer

teachably

[4 marks]

AQA-style questions**Q6** 

Grade 6

AQA style

The n th term of a sequence is $n^2 - 2n$. Find the 2nd and 5th terms.

Answer

teachably

[2 marks]**Q7** 

Grade 7

AQA style

Find the common ratio of the sequence 80, 40, 20, 10, ... and hence find the next term.

Answer

teachably

[3 marks]**Q8** 

Grade 8

AQA style

Find the n th term of the sequence 5, 8, 13, 20, 29, ...

Answer

teachably

[3 marks]

Q9

Grade 8

AQA style

A geometric sequence begins 6, 12, 24, 48, ... Find the n th term, and hence find the 7th term.

Answer

teachably

[3 marks]**Q10**

Grade 9

AQA style

The n th term of a sequence is $n^2 + 5n$. Show that 200 is not a term in this sequence.

Answer

teachably

[3 marks]

OCR-style questions**Q11** 

Grade 6

OCR style

The n th term of a sequence is $2n^2 + 1$. Find the 3rd and 4th terms.

Answer

teachably

[2 marks]**Q12** 

Grade 7

OCR style

Find the common ratio of the sequence 3, -6, 12, -24, ... and hence find the next term.

Answer

teachably

[3 marks]**Q13** 

Grade 8

OCR style

Find the n th term of the sequence 4, 11, 22, 37, 56, ...

Answer

teachably

[3 marks]

Q14

Grade 8

OCR style

A geometric sequence begins 100, 50, 25, 12.5, ... Find the n th term, and hence find the 5th term.

Answer

teachably

[3 marks]**Q15**

Grade 9

OCR style

In a geometric sequence, the 2nd term is 6 and the 5th term is 162. Find the common ratio and the first term.

Answer

teachably

[4 marks]

Teachably-style questions**Q16** 

Grade 6

Teachably style

The n th term of a sequence is $n^2 + n$. Find the 4th and 6th terms.

Answer

teachably

[2 marks]**Q17** 

Grade 7

Teachably style

Find the common ratio of the sequence 5, 15, 45, 135, ... and hence find the next term.

Answer

teachably

[3 marks]**Q18** 

Grade 8

Teachably style

Find the n th term of the sequence 1, 6, 15, 28, 45, ...

Answer

teachably

[3 marks]

Q19

Grade 8

Teachably style

A geometric sequence begins 2, -6, 18, -54, ... Find the n th term, and hence find the 6th term.

Answer _____

teachably

[3 marks]

Q20

Grade 9

Teachably style

A student says the sequence 2, 6, 18, 54, ... is arithmetic because every term is bigger than the one before. Explain why the student is wrong, and state what type of sequence it actually is.

Answer _____

teachably

[3 marks]

END OF PAPER**Want help from an expert maths tutor?**

Book a free GCSE Maths consultation with our team at Teachably. Visit teachably.co.uk/book-call to get started.