



FluidMaths

GCSE Mathematics (Grade 9-1)

Problem Solving
Quadratic Sequences
Questions

The marks shown are for guidance purposes only

When not specified, round all non-terminating decimals during your calculations to 3 significant figures

Some useful strategies in problem-solving

- Read the question carefully
- Sketch a diagram where applicable
- Take note of key information
- Write down any formulae you may need
- Tackle the problem in bite-size rather than as a whole
- Concentrate on the part of the problem you understand and start from there
- Collaborate with a partner and share ideas
- Use a dictionary to find the meaning of any confusing words
- Check that your answers make sense in the context of the question

Quadratic Sequences Questions

1	<p>The Nth term of a quadratic sequence is given as</p> $n^2 + an + b$ <p>The 3rd and 4th terms of the sequence are 17 and 27 respectively. Find the value of the 10th term. [5marks]</p>
2	<p>Here are the first 5 terms of a quadratic sequence</p> $1.5, \quad 12, \quad 26.5, \quad 45, \quad 67.5$ <p>Find the difference between the 30th and 40th terms [5marks]</p>
3	<p>The Nth term of a quadratic sequence is $an^2 + 5n - 7$</p> <p>The difference between the 3rd and 2nd terms is -10</p> <p>Find the 100th term of the sequence [4marks]</p>
4	<p>The Nth term of a quadratic sequence is $n^2 - kn + 42$</p> <p>The 2nd term in the sequence is 62</p> <p>Find the smallest possible term in the sequence. [5marks]</p>
5	<p>Here are the first 5 hexagonal numbers</p> $1, 6, 15, 28, 45, \dots$ <p>The Nth term of the sequence is $an^2 + bn$</p> <p>Find the values of the 10th hexagonal number [5marks]</p>