

Question 1

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(a) Find $f(-1)$

(b) Find $gf(4)$

Question 2

Find the n th term of this quadratic sequence:

$-1, 9, 21, 35, 51, \dots$



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8

(b) Find $gf(4)$ $\frac{3}{2}$

Question 2

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The first differences are: 10, 12, 14, 16

The second differences are: 2, which means the sequence

has n th term $n^2 + bn + c$ So $n^2 + bn + c$: $-1, 9, 21, 35, 51, \dots$ And n^2 : $1, 4, 9, 16, 25, \dots$ i.e. $bn + c$: $-2, 5, 12, 19, 26, \dots$ so $b = 7$ and $c = -9$ So the n th term of the quadratic sequence is $n^2 + 7n - 9$