

SEQUENCES

Name: _____

Assessment Criteria: Find the next term and n^{th} term of quadratic sequences and functions and explore their properties

1. Find the first three terms of the sequence with an n^{th} term of $T(n) = 2n^2 - 7$

_____, _____, _____

2. Find the n^{th} term of each of these sequences:

a) -3, 0, 5, 12, 21, ...

$T(n) =$ _____

b) $\frac{1}{2}, \frac{1}{6}, \frac{1}{12}, \frac{1}{20}, \frac{1}{30}, \dots$

$T(n) =$ _____

3. Find a way to continue a sequence starting 1, 2, ... so that it has a quadratic n^{th} term. Explain your answer.

4. Decide whether each of the following statements is always true, sometimes true, or never true. Explain your answer in each case.

a) Sequences with an equivalent second difference have a quadratic n^{th} term

b) Sequences with an unequal first difference pattern have a quadratic n^{th} term

c) The second difference for a quadratic sequence is always 2

Overall, I think my success level is:

Low High

Q	SEQUENCES	😊	☹
	I can find the terms of a quadratic sequence given its n^{th} term		
	I can find the n^{th} term of a quadratic sequence		
	I can find the n^{th} term of a sequence that is connected to a quadratic rule		
	I know some of the properties of quadratic sequences		
	<i>I can justify generalisations, arguments or solutions</i>		

I need to practise ...