

Linear and Quadratic Sequences, n th Term

Year 11 · Algebra · y11-sequences

Name: _____

Date: _____

Class: _____

Score: ____ / ____

Instructions

Answer every question in Practice. Try the Challenge section once Practice is complete. 10 questions in total.

Practice

1. A sequence 5, 8, 11, 14, ... has n th term $3n + 2$. What is the 10th term?

2. A quadratic sequence 3, 6, 11, 18, 27, ... has n th term $n^2 + 2$. What is the 5th term? ($5^2 + 2$)

3. A sequence has n th term $4n - 1$. What is the 6th term?

4. A sequence is 2, 6, 18, 54, ... — each term is found by multiplying the previous term by a constant ratio. Is this an arithmetic or a geometric sequence?

5. A sequence has n th term $2n + 5$. Is 41 a term in this sequence? Solve $2n + 5 = 41$ for n , and answer yes if n is a positive whole number, otherwise no.

6. For a linear n th term $an + b$, substitute the term number for n and evaluate. A sequence has n th term $5n - 3$. What is the 8th term?

7. For a quadratic n th term with an n^2 part, square the term number first, then apply the rest of the formula. A sequence has n th term $2n^2 + 1$. What is the 3rd term? ($2 \times 3^2 + 1$)

8. Substitute the term number into the formula exactly as written, keeping the order of operations. A sequence has n th term $6n + 1$. What is the 7th term?

Challenge

1. A sequence has n th term $3n^2 - n$. What is the 4th term? ($3 \times 4^2 - 4$)

2. A sequence has n th term $4n + 7$. What is the 20th term?
