Finding the nth Term of Linear Sequences

Year 9 · Algebra · y9-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 is 3, 7, 11, 15, ... Find the nth term.

2. Find the nth term of the sequence 5, 8, 11, 14, ...

3. Find the nth term of the sequence 2, 9, 16, 23, ...

4. Find the nth term of the sequence 10, 8, 6, 4, ...

5. The nth term of a sequence is 5n + 3. What is the 10th term?

6. The coefficient of n is always the common difference between consecutive terms -- count how much the sequence goes up (or down) by each time. What is the common difference for 6, 10, 14, 18, ...?

7. The constant is NOT the first term -- it's what you'd need for a 'term zero' (subtract the common difference from the first term). For the sequence 5, 8, 11, 14, ... with common difference 3, what is the constant in the nth term (5 - 3)?

8. To find the nth term: 1) find the common difference, 2) multiply n by it, 3) adjust with a constant so the formula matches the first term. Find the nth term of 4, 6, 8, 10, ...

Challenge

1. A sequence is 1, 5, 9, 13, ... Find the 50th term using the nth term rule.

2. A sequence has nth term 2n + 7. Is 100 a term in this sequence? Answer yes or no.