Number Sequences: Generating and Describing

Year 7 · Algebra · y7-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 starts 3, 7, 11, 15, ... What are the next two terms?

2. Describe the term-to-term rule for the sequence 2, 5, 8, 11, ...

3. A sequence starts 20, 17, 14, 11, ... What are the next two terms?

4. Find the missing term: 4, 9, 14, __, 24.

5. A sequence is 1, 2, 4, 8, 16, ... Describe the term-to-term rule.

6. The term-to-term rule must work for EVERY pair of consecutive terms, not just the first two. Is 'add 2' the correct rule for the sequence 3, 5, 8, 10? Answer yes or no.

7. To find a missing term in the middle of a sequence, work out the rule from the terms you can see, then apply it. Find the missing term: 6, 11, __, 21, 26.

8. Apply the rule to the LAST term you found, not back to the first term each time. A sequence starts at 5 with the rule 'add 4'. What are the first four terms?

Challenge

1. A sequence is 2, 6, 12, 20, 30, ... (the differences between terms increase by 2 each time: 4, 6, 8, 10...). What is the next term?

2. The first term of a sequence is 8. The term-to-term rule is 'subtract 5'. How many terms are needed before the sequence first becomes negative?