Unit 1 Lesson 3: Different Types of Sequences

1 Remembering Function Notation (Warm up)

Student Task Statement

Consider the function f given by $f(n) = 3n - 7$. This function takes an input, multiplies it by 3, then subtracts 7.

Evaluate mentally.

- $f(10)$
- $f(10) - 1$
- $f(10 - 1)$
- $f(5) - f(4)$

2 Three Sequences

Student Task Statement

Here are the values of the first 5 terms of 3 sequences:

- A: 30, 40, 50, 60, 70, . . .
- B: 0, 5, 15, 30, 50, . . .
- C: 1, 2, 4, 8, 16, . . .

1. For each sequence, describe a way to produce a new term from the previous term.
2. If the patterns you described continue, which sequence has the second greatest value for the 10^{th} term?
3. Which of these could be geometric sequences? Explain how you know.

3 Representing a Sequence

Student Task Statement

Jada and Mai are trying to decide what type of sequence this could be:

term number	value
1	2
2	6
5	18

Jada says: "I think this sequence is geometric because in the value column each row is 3 times the previous row."

Mai says: "I don't think it is geometric. I graphed it and it doesn't look geometric."

Do you agree with Jada or Mai? Explain or show your reasoning.