Recursive Sequences in Functions

Today's Standard

HSF.IF.A3 - Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.

Cues	Notes
What is a sequence?	A sequence is an ordered list of numbers following a specific pattern.
Define recursive sequence.	A recursive sequence is defined by a rule that relates each term to previous terms.
Example of a recursive sequence?	The Fibonacci sequence: f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.
Why are sequences considered functions?	Sequences are functions because they map each term to a specific position in the sequence.
Applications of recursive sequences?	Recursive sequences are used in modeling population growth, predicting investments, and analyzing algorithms.

Summary

Sequences are functions that can be defined recursively. Understanding recursive sequences, like the Fibonacci sequence, is essential for advanced math topics and real-world applications.