Steven J. Miller, Fei Peng, Tudor Popescu,
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Walking to Infinity on the Fibonacci Sequence,
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Abstract

An interesting open problem in number theory asks whether it is possible to walk to infinity on primes, where each term in the sequence has one more digit than the previous. In this paper, we study its variation where we walk on the Fibonacci sequence. We prove that all walks starting with a Fibonacci number and the following terms are Fibonacci numbers obtained by appending exactly one digit at a time to the right have a length of at most two. In the more general case where we append at most a bounded number of digits each time, we give a formula for the length of the longest walk.