

# Inabilities of Analytic Computations

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## Abstract

We continue a study, initiated by others, of error-free computations with format-free real numbers, analytic functions, branching on order comparisons, each operation requiring one step, and with control flowing on a tree. We show that this idealized and powerful computational structure cannot solve classes of problems. The presence of the floor, which is enabled by two analytic functions and a decision, very much influences the relevant mathematics and corresponding results. To appreciate the sets and arguments needed herein, on the real line, consider the discontinuities of the function:  $f(x) = \text{floor}(\text{inverse}(x \text{ minus } \text{floor}(x)))$ .