



## Why

The entire functions “extend” the polynomial functions. For polynomial in  $\mathbf{C}$ , we can extend the class to the (complex) rational functions in  $\mathbf{C}$ . Can we similarly extend the class entire functions?<sup>1</sup>

## Definition

A *meromorphic function* (or *fractional function*) is a function  $f : \mathbf{C} \rightarrow \mathbf{C}$  for which there exists entire functions  $g : \mathbf{C} \rightarrow \mathbf{C}$  and  $h : \mathbf{C} \rightarrow \mathbf{C}$  so that

$$f(z) = \frac{g(z)}{h(z)}$$

for all  $z \in \mathbf{C}$ .<sup>2</sup>

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<sup>1</sup>Future editions may modify.

<sup>2</sup>Future editions will continue the development.



