



MEROMORPHIC FUNCTIONS

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?¹

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 $z \in \mathbf{C}$.²

¹Future editions may modify.

²Future editions will continue the development.

