



## Why

We want to discuss a function which repeats itself on regular intervals.<sup>1</sup>

## Definition

A function  $f : \mathbf{R} \rightarrow \mathbf{R}$  is *periodic with period*  $\alpha \in \mathbf{R}$  if

$$f(x + \alpha) = f(x)$$

for all  $x \in \mathbf{R}$ . In this case we call  $f$   $\alpha$ -*periodic*.

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<sup>1</sup>Future editions will introduce this after the functions  $\sin$ ,  $\cos$ , etc.



