

## Periodic Functions

## Why

We want to discuss a function which repeats itself on regular intervals.  $^{1}$ 

## **Definition**

A function  $f: \mathbb{R} \to \mathbb{R}$  is periodic with period  $\alpha \in \mathbb{R}$  if

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

for all  $x \in \mathbf{R}$ .

<sup>&</sup>lt;sup>1</sup>Future editions will introduce this after the functions sin, cos, etc.

