Answer on Question #79022 – Math – Calculus

Question

Give an example, with justification, of a periodic function which is not even.

Solution

Let $f(x) = \sin x$. Then

$f(x + 2\pi) = \sin(x + 2\pi) = \sin x = f(x)$

so f is periodic with period 2π.

It is not even since

$f\left(-\frac{\pi}{2}\right) = -1 \neq 1 = f\left(\frac{\pi}{2}\right)$ (actually it is odd).

Answer: $f(x) = \sin x$.