
Lab 14 - Fourier Series

1. Given the periodic functions below.
 - i. Sketch their graphs over three periods.
 - ii. Find their Fourier coefficients a_0, a_1, a_2, b_1, b_2 .
 - iii. Use the Fourier coefficients found in **ii.** to write the corresponding Fourier series.

a. $f(x) = \begin{cases} -1 & \text{for } -\pi \leq x < 0 \\ 0 & \text{for } 0 \leq x < \pi, \text{ period} = 2\pi \end{cases}$

b. $f(x) = \begin{cases} 0 & \text{for } -1 < x \leq 0 \\ x & \text{for } 0 < x \leq 1, \text{ period} = 2 \end{cases}$