Fourier Series Example

Consider the signal

\[
x(t) = 5 + 16 \cos \left(2\pi \cdot 500 \cdot t - \frac{\pi}{4}\right) + 10 \sin \left(2\pi \cdot 5000 \cdot t + \frac{\pi}{8}\right)
\]

• Find the Fourier series coefficients, \( \{a_k\} \); which harmonics are present?

• For the periodic waveform shown below find the \( a_0 \) Fourier series coefficient, the period, \( T_0 \), and fundamental freq. \( f_0 \)

\[x(t)\]