Example 1:

$$\begin{cases} f(t) = a_0 + \sum_{n=1}^{\infty} a_n \cos(nt) - b_n \sin(nt) \\ a_0 = \dfrac{2\sinh(\pi)}{\pi} \\ a_n = \dfrac{2(-1)^n \sinh(\pi)}{\pi(1+n^2)} \\ b_n = \dfrac{2n(-1)^n \sinh(\pi)}{\pi(1+n^2)} \end{cases} \tag{1}$$

Example 2:

$$f(t) = \sum_{n=1}^{\infty} -\frac{2\sin(nt)}{n}\left[(-1)^n + \frac{sin(n\pi)}{n\pi}\right] \tag{2}$$

Example 3:

$$f(t) = \frac{2\pi^2}{3} + \sum_{n=1}^{\infty} \frac{4(-1)^{n+1}}{n^2}\cos(nt) \tag{3}$$