

Course 2E1 2004-05 (SF Engineers & MSISS & MEMS)

S h e e t 20

Due: in the tutorial sessions first Wednesday/Thursday in the next term

Exercise 1Find the Fourier series of the function $f(x)$:

$$(i) \ f(x) = \begin{cases} 1 & \text{if } -\pi < x < 0 \\ 0 & \text{if } 0 < x < \pi; \end{cases}$$

$$(ii) \ f(x) = x, \ -\pi < x < \pi;$$

$$(ii) \ f(x) = \begin{cases} x & \text{if } -\pi < x < 0 \\ -x & \text{if } 0 < x < \pi. \end{cases}$$