

HOMEWORK #7 (Chapter 12 Orthogonal functions and Fourier series)

In Problem 1-2, find the half-range cosine and sine expansions of the given function.

(1).  $f(x) = \begin{cases} 0, & 0 < x < 1/2 \\ 1, & 1/2 \leq x < 1 \end{cases}$  (Exercises 12.3 problem 26).

(2).  $f(x) = \sin x, \quad 0 < x < \pi$  (Exercises 12.3 problem 28).