

Suggested problems 33

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1. Assume that the given function is periodically extended outside the original interval. Sketch the graph of the function to which the Fourier series converges for three periods.

(a)

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

(b)

$$f(x) = \begin{cases} x, & 0 \leq x < 2, \\ 2, & 2 \leq x < 3. \end{cases}$$