

**EXERCISES 3.6**

\*3.6.1. Consider

$$f(x) = \begin{cases} 0 & x < x_0 \\ 1/\Delta & x_0 < x < x_0 + \Delta \\ 0 & x > x_0 + \Delta. \end{cases}$$

Assume that  $x_0 > -L$  and  $x_0 + \Delta < L$ . Determine the complex Fourier coefficients  $c_n$ .

3.6.2. If  $f(x)$  is real, show that  $c_{-n} = \bar{c}_n$ .