

Q1

6.5. Consider a sequence

$$x[n] = \sum_{k=-\infty}^{\infty} \delta[n - 4k]$$

(a) Sketch $x[n]$.

(b) Find the Fourier coefficients c_k of $x[n]$.

Q2

6.6. Determine the discrete Fourier series representation for each of the following sequences:

(a) $x[n] = \cos \frac{\pi}{4} n$

(b) $x[n] = \cos \frac{\pi}{3} n + \sin \frac{\pi}{4} n$

(c) $x[n] = \cos^2 \left(\frac{\pi}{8} n \right)$

Q3

6.11. Find the Fourier transform of

$$x[n] = -a^n u[-n - 1] \quad a \text{ real}$$

Q4

6.12. Find the Fourier transform of the rectangular pulse sequence (Fig. 6-10)

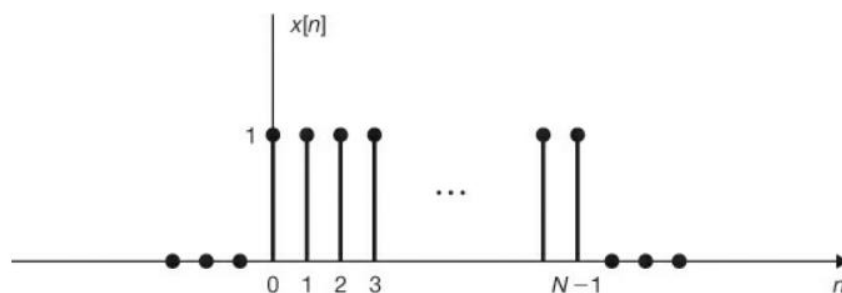


Fig. 6-10

