

1. Find the trigonometric Fourier series for the signals in Fig. P3.4-3(b),(d) on page 229 of your textbook.
2. Sometimes a periodic signal is made from another (non-periodic) signal by repeating a portion of it, as in Fig. 3.7(a),(b) on page 192 of your textbook. Verify the expressions for the trigonometric Fourier series coefficients given in Example 3.3.

Hint: Use the formulas (see page 48 of your textbook)

$$\int e^{\alpha t} \sin \beta t dt = \frac{e^{\alpha t}}{\alpha^2 + \beta^2} (\alpha \sin \beta t - \beta \cos \beta t),$$
$$\int e^{\alpha t} \cos \beta t dt = \frac{e^{\alpha t}}{\alpha^2 + \beta^2} (\alpha \cos \beta t + \beta \sin \beta t).$$

3. Find the exponential Fourier series for the signals in Fig. P3.4-3(b),(d) on page 229 of your textbook. Plot the spectrum (i.e., plot both $|d_n|$ and $\angle d_n$).
4. Chapter 3, Problem 3.5-3, Part (a).