

3.5.8

Sol. Apparently,

$$c = (0, 1, 0, 1)$$

$$1 + e^{2ix} = 2, 0, -2, 0 \text{ when } x = 0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}$$

3.5.10

Sol.

$$\textcircled{1} n=2$$

$$y_0 = y_0' + y_0''$$

$$y_1 = y_0' - y_0''$$

$$\textcircled{2} n=4$$

$$y_0 = y_0' + y_0''$$

$$y_1 = y_1' + iy_1''$$

$$y_2 = y_0' - y_0''$$

$$y_3 = y_1' - iy_1''$$