Example 7-3: Let $y[n] = x[n - 10]$, where $x[n]$ is the sinc function of (**??**):

$$y[n] = \frac{\sin \hat{\omega}_b (n - 10)}{\pi (n - 10)}$$

Using the time-delay property and the result for $X(e^{j\hat{\omega}})$ in (**??**), we can write down the following expression for the DTFT of $y[n]$ with virtually no further analysis:

$$Y(e^{j\hat{\omega}}) = X(e^{j\hat{\omega}})e^{-j\hat{\omega}10} = \begin{cases} e^{-j\hat{\omega}10} & 0 \le |\hat{\omega}| \le \hat{\omega}_b \\ 0 & \hat{\omega}_b < |\hat{\omega}| \le \pi \end{cases}$$

Notice that the magnitude plot of $|Y(e^{j\hat{\omega}})|$ is still a rectangle as in Fig. **??**(a); time delay only changes the phase in the frequency domain.

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