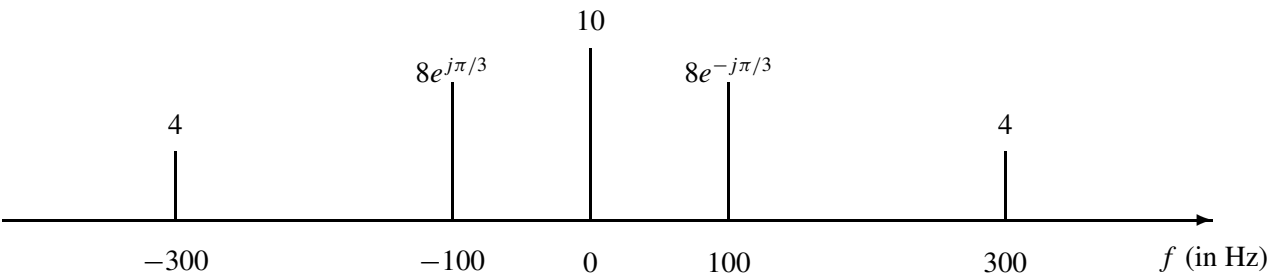


**PROBLEM:**

A signal  $x(t)$  has the two-sided spectrum representation shown below.



(a) Write an equation for  $x(t)$ .

(b) The signal  $x(t)$  is sampled with sampling frequency  $f_s = 300 = 1/T$  samples/second to obtain the discrete-time signal  $x[n] = x(nT)$ . Write an equation for  $x[n]$  and plot the spectrum of  $x[n]$  for normalized frequencies  $-\pi \leq \hat{\omega} \leq \pi$ .

