PROBLEM:

The two-sided spectrum of a signal $x(t)$ is given in the following table:

frequency (ω)	complex phasor
-200π	$1+\sqrt{3}j$
-100π	X_{-1}
0	5
ω_1	$2e^{-j\pi 6}$
200π	X_2

(a) If $x(t)$ is a real signal, what are X_1, X_{-2}, and ω_1?

(b) Plot the spectrum of this signal as a graph.

(c) Write an expression for $x(t)$ involving only real numbers and cosine functions.